S. HRG. 119–130

NTSB PRELIMINARY REPORT: THE DCA MIDAIR COLLISION

HEARING

BEFORE THE

SUBCOMMITTEE ON AVIATION, SPACE, AND INNOVATION

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION
UNITED STATES SENATE

ONE HUNDRED NINETEENTH CONGRESS

FIRST SESSION

MARCH 27, 2025

Printed for the use of the Committee on Commerce, Science, and Transportation

Available online: http://www.govinfo.gov

U.S. GOVERNMENT PUBLISHING OFFICE
61–288 PDF WASHINGTON : 2025

SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED NINETEENTH CONGRESS

FIRST SESSION

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NTSB PRELIMINARY REPORT: THE DCA MIDAIR COLLISION

THURSDAY, MARCH 27, 2025

U.S. SENATE,
SUBCOMMITTEE ON AVIATION, SPACE, AND INNOVATION,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Subcommittee met, pursuant to notice, at 10 a.m., in room SD–106, Dirksen Senate Office Building, Hon. Jerry Moran, Chairman of the Subcommittee, presiding.

Present: Senators Moran [presiding], Cruz, Sullivan, Budd, Schmitt, Sheehy, Capito, Duckworth, Cantwell, Klobuchar, Markey, and Hickenlooper.

OPENING STATEMENT OF HON. JERRY MORAN, U.S. SENATOR FROM KANSAS

Senator MORAN. The Committee will come to order. The Subcommittee on Aviation and Space of the United States Senate's Committee on Commerce convenes today for what I consider a very important hearing.

Fifty-seven days ago, our Nation witnessed the first major U.S. commercial passenger flight crash in nearly 16 years. Families had their loved ones taken from them in an instant. Children lost their parents, husbands lost their wives, a Kansas couple lost their daughter, and a rural community in our state, called Kiowa, lost a husband and wife, a pillar of the community, who were traveling to visit their daughter in college.

I have taken that American flight before. There were many Kansans on that flight and several of the members of this Committee lost constituents on the American Airlines Flight 5342, and the Army's Black Hawk helicopter.

In addition to the families who are grieving, our first responders made heroic efforts to find survivors and save lives, and the investigators have spent nearly 2 months searching the Potomac River and working to reconstruct wreckage to find answers.

It has been a difficult 57 days.

Sixty-seven lives that were lost on January 29 were taken prematurely in an accident that, by all indications, should have been avoided. Now the families of these victims, the Federal Aviation Administration, the National Transportation Safety Board, the U.S. Army, and Congress are tasked with how to best honor the memory and make certain accidents like this never happen again.

I want to highlight NTSB Chair Jennifer Homendy and NTSB Board for their diligence and transparency throughout the inves-

tigations. That job obviously is not an easy one, but it has been done with professionalism and care. It is their work that brings us here today to review.

NTSB's preliminary report into the midair collision provides insight into the events of January 29, but many questions, certainly in my view, many questions still need to be answered, not only by the NTSB's investigation but by our Nation's aviation safety regulator and by the Army.

The preliminary report provides alarming statistics in using existing FAA data on the risks at DCA to aviation safety. That data includes, and NTSB provides, these numbers. In a 13-year period, not a single month went by without at least one, quote, "close call" between a helicopter and a commercial jet operating at DCA. Between October 21 and December 24, there were 85 incidents where the lateral separation between a commercial jet and a helicopter was less than 1,500 feet and the vertical separation was less than 200 feet. And during that same timeframe, there were more 15,000, quote, "close proximity events" between a helicopter and a commercial airplane, the NTSB findings that it is possible for a helicopter on Route 4 to have as little as 75 feet of vertical separation from airplanes on approach to Runway 33.

I commend the NTSB for issuing urgent safety recommendations, and I commend the FAA in acting to implement them, particularly the permanent restriction of nonessential helicopter operations at DCA. However, I want to know how, with these statistics in the FAA files, why prior to January 29 the agency failed to improve safety protocols at Reagan National Airport?

This Committee worked tirelessly to pass an FAA reauthorization bill last Congress that prioritized safety, enabling our industry to continue innovating and equipping the FAA with the resources necessary to keep our skies safe. We need a permanent, confirmed FAA administrator to implement this important framework for the future of the industry. President Trump recently nominated Bryan Bedford to lead the FAA, and I look forward to his testimony before this Committee in the near future.

I commend Secretary Duffy for his push to modernize airspace, and I look forward to this Subcommittee working together to keep America's traveling public safe and improve public trust in our air travel system.

Demand for commercial aviation is expected to grow 4 percent each year over the next two decades, and along with new technology and commercial spacecraft entering our airspace. This will further place demands upon our airspace and require the tools and guidelines to ensure a safe airspace.

American Airlines Flight 5342 and Priority Air Transport 25 carried innocent civilians, selfless servicemembers, talented figure skaters, fathers and mothers, husbands and wives, sons and daughters. And while Congress' response to January 29 ought to be deliberate and not executed in a knee-jerk fashion, Congress must make certain that this loss of life occurs never again.

In this early investigation, we have many unresolved questions. Among those for me is why was the ADS–B Out not transmitting on the Black Hawk? Was it turned off or was there equipment malfunction? Why had precautions not been taken to mitigate the risks

of collisions between commercial aircraft and rotor wing near DCA, the statistics I just described? What is the severity of this issue at other airports where combined traffic is also high? What explains the discrepancy between the altitude readings of the crew of the Black Hawk? Why did the Black Hawk's invalid pressure altitude data influence other systems that utilized this source? How the use if night vision goggles may have impacted the Black Hawk helicopter pilots' line of vision? And finally, how should the FAA evaluate combining duties of air traffic controllers?

I am appreciative for our witnesses being here today. I note they each take this circumstance seriously. I am anxious to hear the discussion that they have with this Committee, and the end result should be a better understanding as well as working to identify and prevent tragedies today and into the future.

I now recognize the Ranking Member of this Subcommittee, Senator Duckworth, the Senator from Illinois, for her opening remarks.

STATEMENT OF HON. TAMMY DUCKWORTH,
U.S. SENATOR FROM ILLINOIS

Senator DUCKWORTH. Thank you, Chairman Moran, and thank you for your continued partnership on aviation safety issues. I enjoy being your partner on this Subcommittee. And I want to thank both the Chairman of the Commerce Committee and the Ranking Member for your work with us, as well.

I do want to extend, first and foremost, my condolences to the family members of the victims, some of whom are here with us today, both on the commercial airliner as well as the family members who lost the brave soldiers in the Black Hawk helicopter. These are folks who put on the colors of this great nation, committed themselves to defending this great nation, and were at their duty station, training to protect and defend, as they lost their lives.

I also want to thank the first responders and everyone at NTSB for their tireless work to get us the answers that we all are looking for.

There is a saying, and many of you have heard it, our aviation regulations are written in blood. So we have an obligation to the victims to learn what went wrong and prevent a collision like this from ever happening again. As a former Black Hawk pilot myself—and I have flown helicopters out of very congested airspace at Midway Airport. In fact, I commanded the Midway unit for a number of years—I know how challenging this type of mixed-use airspace can be. But a challenging airspace is no excuse. This should never have happened.

This collision was horrendous, and it is heartbreaking, but it was not a surprise. Our alarm bells about potential collisions have been ringing for years. Coming out of the pandemic, we saw a frightening rise in close calls and an erosion of our aviation system's margin of safety. We have known for years that we need more air traffic controllers and more safety technology. The warnings have been clear, and in some cases right here within this Committee, and a bipartisan consensus on the need to upgrade the equipment and the need to train more air traffic controllers.

In November 2023, we held a hearing on close calls. NTSB Chair Homendy testified, citing staffing shortages, fatigue, distraction,

deviation from FAA regulations, and a lack of runway safety technology, and she warned, and I quote, "The concerning uptick in such incidents is a clear warning sign that the U.S. aviation system is sharply strained. We cannot wait until a fatal accident forces action. We must act before there is a tragedy," end quote.

Chairwoman just sadly predicted what was going to happen, and you said that in 2023.

At the same hearing, the National Air Traffic Controllers Association's President told us that staffing shortages were so bad that many air traffic controllers were working mandatory overtime, 6-day work weeks, and 10-hour days. He warned, and I quote, "Over the long term, this will continue to introduce unnecessary risks into the system," end quote.

So we passed, in a bipartisan way, FAA reauthorization bill last year, to help rebuild our aviation workforce and make critical investments in safety. The FAA is still implementing that new law, but clearly Congress has more work to do to shore up aviation safety in this great nation.

In December 2024, we held another hearing. The GAO told us that more than 75 percent of our aging air traffic controller systems are unsustainable, or potentially unsustainable.

The deadly collision at DCA is not the only aviation safety incident so far this year. We have seen deadly crashes in Philadelphia and Alaska, a crash landing in Toronto that miraculously everyone survived, even after the aircraft flipped upside down. Earlier this month we saw passengers standing on the wing of a 737 aircraft in Denver to escape a fire. And near misses keep happening. In February, a Southwest flight came within 200 feet of colliding with a Flexjet plane at Midway Airport.

At such a dangerous time for aviation safety, when we need to bolster our workforce and invest in technology, the last thing we should be doing is making cuts to the FAA. Yet two weeks after the DCA crash, the Trump administration began firing hundreds of FAA employees. I say all of this because it is important context we need to keep in mind during today's hearing. We need to understand what happened at DCA, but we also need to understand how this fits into a much larger threat to aviation safety.

According to the NTSB, DCA had many close calls in recent years, between October 2021 and December 2024. As the Chairman has said, there were more than 15,000 incidences of commercial aircraft coming close to rotary-wing aircraft. Eighty-five of those had a vertical separation of less than 200 feet. And last year there were also two high-profile runway close calls at DCA.

NTSB's preliminary report raises several questions, most notably, how did FAA allow a helicopter route to come within 75 feet of a runway approach? FAA has deconflicted the airspace, but DCA is not the only airport in the country where airplanes and helicopters share congested airspace. Several of us raised this at an earlier briefing, and thankfully FAA is now evaluating eight cities where this may also be an issue, including in Chicago.

We also need to know more about what helicopter pilots knew about their altitude. Was their equipment working properly? Voice recordings showed that the pilot and instructor pilot indicated different altitudes as they approach the Key Bridge, and NTSB deter-

mined that some of the altitude information on the helicopter's data recorder was invalid.

There are also questions about ADS–B. Why was the helicopter not transmitting ADS–B Out? Do commercial aircraft need to be equipped with ADS-B In? How come so many helicopters are allowed exemptions from the ADS–B Out requirement at DCA?

So I look forward to hearing from our witnesses, and I yield back, Chairman.

Senator MORAN. Ranking Member Duckworth, thank you very much for your opening statement. She almost called me the Ranking Member.

Senator DUCKWORTH. I did.

Senator MORAN. There is no reason to apologize. Senator Duckworth was the previous Chairman of this Subcommittee, and I had a great opportunity to work with her as the Ranking Member. And I would indicate, certainly to Senator Duckworth but to those in the audience, this is a Subcommittee that will set partisanship aside, and we will continue to work closely together to find the answers that we are looking for today, and beyond finding the answers, making certain that changes are made to prevent this tragedy.

We are joined by the Chairman of the full Committee, Senator Cruz. I appreciate his presence here and his leadership on this issue from the very beginning. And I now recognize him for his opening statement.

STATEMENT OF HON. TED CRUZ, U.S. SENATOR FROM TEXAS

Chairman CRUZ. Thank you, Mr. Chairman, and thank you to the Ranking Member, as well. I want to thank each of our witnesses for being here today and I want to extend a particular welcome to the family members of the 67 crash victims who are here today for this hearing. I have met with many of you since the crash and each of you have my very deepest condolences for your unimaginable loss.

This crash involving American Airlines Flight 5342 and the Army Black Hawk helicopter was preventable. It did not have to happen. And I want you to know I am committed to using the power of this Committee to determine if any policy failures led to this crash and making certain that Congress acts to correct them.

This accident marks the first time a commercial crash in the U.S. has led to mass fatalities in over 15 years. While America's National Airspace System has kept Americans safe for decades, this critical juncture shows that more action must take place to enhance the safety of our system.

The hearing today will examine the factors leading up to the midair collision 300 feet above the Potomac River, whether the Army's practice of disabling ADS–B Out is a glaring safety concern. Whether the FAA missed warning signs with thousands of instances where helicopters and commercial aircraft at DCA came too close to colliding. Whether the communications between the air traffic controller and both the pilots of the American Airlines flight and the Black Hawk helicopter was inadequate.

The families of the American Airlines Flight 5342 victims deserve answers. Congress deserves answers. And the American flying public deserves answers to these important questions.

The NTSB does terrific work. I am grateful to Chairman Jennifer Homendy and her team for their thorough investigation of this accident. The preliminary report being discussed today is factual—it does not include analysis nor does it include findings. It is just one step in what will be a lengthy and ongoing investigation. This Committee will closely follow how that investigation proceeds and look forward to the NTSB's full findings.

Some actions, however, cannot wait.

Aviation safety is dependent on what is called the Swiss cheese model. Each layer of cheese represents a defense against an identified risk, building redundancy into the system to plug holes and prevent accidents. After decades of advancements, the U.S. aviation system has been held up worldwide as the gold standard of safety. The FAA's Air Traffic Organization depends on thousands of talented air traffic controllers, hundreds of millions of dollars in annual investments to sustain technologies used to operate the air system, and billions more invested in technologies and facilities across the system.

Even with these significant investments, the air traffic system is failing. Facilities, which are falling apart, are short-staffed, and projections show the shortages will last for years. Over the weekend, the NOTAM system broke down for a third time in just two years. Congress has provided tens of millions of dollars in the past two years to modernize the NOTAM system, and it has broken down already twice in this calendar year.

President Trump and Secretary Duffy have pledged to take action to improve the air traffic control system. I plan to lead this Committee in passing legislation to do the same. We must provide resources for needed short-, medium-, and long-term improvements that chart the path to success and sustainment for the air traffic system.

Earlier this week, I issued a call to aviation stakeholders for specific ideas to improve the air traffic system. I asked for concrete proposals—taking nothing off the table prematurely to make sure that whatever resources and authorities Congress provides to the Administration will make a lasting difference. My proposal will complement the Trump administration's forthcoming plan.

What the tragedy of Flight 5342 shows us is it is never too early to act to improve aviation safety. I want to thank the families of the victims for taking your enormous grief and channeling it into energy, channeling it into advocacy, channeling it into standing up and speaking out for other families, flying on other flights, fighting for them so they don't have to endure the grief and loss that each of you is enduring.

It is my hope we can spend the coming months in the wake of this tragedy working seriously to plug safety gaps and to ensure that an accident of this magnitude never happens again. Thank you.

Senator MORAN. Chairman Cruz, thank you for your opening remarks, your leadership today, and your leadership into the future.

We now recognize the Ranking Member of the full Committee, the Senator from Washington State, Senator Cantwell.

STATEMENT OF HON. MARIA CANTWELL,
U.S. SENATOR FROM WASHINGTON

Senator CANTWELL. Thank you, Chairman Moran. Thank you Ranking Member Duckworth. Thank you full Committee Chairman Cruz. We are here today to examine one of the most devastating accidents in U.S. history. With 67 lives lost on January 29, we have a responsibility to not only understand what happened, but to fix it, so that it never happens again.

I want to recognize the families who are here with us today and express my condolences, but also my appreciation for the diligence that you now are demonstrating by being here today. Too much of aviation safety in the last several years has been left to the advocacies of families. We should not have to rely on you. You should be able to mourn your losses. But we need you to continue to advocate for these important policies.

I welcome NTSB Chair Jennifer Homendy, FAA Acting Administrator Chris Rocheleau, and Brigadier General Matt Braman, who is the Director of Army Aviation. You are here to provide us an update on this collision and why a Black Hawk helicopter on a training flight collided with this American Airlines flight.

As we seek answers, the NTSB's preliminary report has alarming facts. First, in the 3-year period leading up to the collision, commercial airplane and helicopters got within 400 feet of each other on 15,214 occasions, within 200 feet on 85 occasions. FAA's air traffic managers approve helicopter route charts annually, so as the data raised questions about the safety of these routes, the ball clearly falls into the FAA's court as to whether to act on this data or make changes where the helicopters can fly in DCA.

A helicopter at 200 feet would only have 75 vertical feet separation from an airplane approaching on Runway 33. These findings reveal a very systemic issue that demands answers from our witnesses today. Acting Administrator Rocheleau, I want to know: Why did the FAA not act on 15,000 reports of dangerous proximity? How were these helicopter routes allowed to remain when alarm bells were literally going off in the towers?

This lack of oversight must change. The Army Black Hawk helicopter was not transmitting what is known as ADS–B Out signal, although we do not know why. What we do know is that the military told our colleague, House Delegate Eleanor Holmes Norton, in 2023, that the military operates 100 percent of its flights in the National Capital Region without this safety technology—100 percent of the time. On March 7, I wrote Secretary Hegseth about this issue, asking to respond by March 21. I have still heard nothing back. I do not like this silence. It is deafening.

General Braman, I have questions about these policies, especially given the FAA's 2019 rule stating that the deactivation of the ADS–B Out technology, pursuant to an exemption, was not to be routine. Well, the Holmes letter says that not only was it far from routine, 100 percent of the time they operated with this exemption.

Acting Administrator Rocheleau, your agency gave government airspace users a loophole. What we want to know now is why this

was allowed to continue if we had this data and information and are there any other agencies that are acting with ADS–B Out that we have not addressed yet?

The FAA rule needs to change. Chair Homendy, I will be asking you about ADS–B requirements. In 2010, the FAA said that it was premature to require this kind of equipment on operators. Yet, at the same time the FAA made that decision, just two years earlier, you wrote a letter saying, disagreeing with them, but saying that, quote, "the equipage of aircraft with ADS–B Out in capacity will provide for an immediate, substantial contribution to safety, especially during operations in and around airports."

Why did we not listen? Fifteen years later, commercial aircraft are still not operating with this. If the American Airlines regional jet had been equipped with this ADS–B In, it would have been able to receive the Black Hawk's transmission, giving it better intelligence on positioning.

Tim Lilley, the father of the pilot from the commercial aircraft, who he himself is also a Black Hawk helicopter pilot, and his wife Sherri, spent many years working at Gulfstream. They know a thing or two about aviation. They gave me a list of actions they hope Congress can take to improve safety.

Mr. Chairman, we all need to work together on this critical safety legislation, legislation to close the ADS–B Out loophole, require more commercial jets to have ADS–B In capacity when operating near our Nation's busiest airports, and have stronger information sharing between our military and civilian authorities.

This is not just about policy. It is about saving lives. To my colleagues, I hope that we can work together in a bipartisan fashion. Since the FAA Reauthorization Act did require NextGen completion by 2025, we also directed the FAA to develop a plan for accelerating airline equipage with NextGen technologies and authorized $17 billion through 2028 to modernize and replace the FAA ATC systems and infrastructure.

So, I do want to say, I do not believe in cutting the services, the benefits, or the training of our air traffic controllers. We need them, and we need them to do their job. I supported Senator Cruz's efforts to continue to advance more training centers to get more air traffic controllers trained. But now we need to learn this painful lesson. We need to make sure that we are preventing future accidents from happening. We must be unwavering in this effort.

Thank you, Mr. Chairman, and I yield back.

Senator MORAN. Ranking Member Cantwell, thank you for your opening statement. I will now introduce our panelists who are here to testify.

Our first witness Jennifer—I am sorry. I should put a title before you.

Our first witness is Chairman Jennifer Homendy of the National Transportation Safety Board. The NTSB is an independent Federal agency that investigates every civil aviation accident in the United States and significant events in other modes of transportation such as rail, transit, roadway, and pipeline. She has served as the Chairwoman since 2021, and is a member of the NTSB Board since 2018.

Our second witness is Mr. Chris Rocheleau, Acting Administrator of the Federal Aviation Administration. Mr. Rocheleau has served at the FAA for more than 20 years, in multiple roles, including as Deputy Associate Administrator for Aviation Safety.

And our third witness is Brigadier General Matthew Braman, Director of Army Aviation for the Headquarters of the Department of the Army. Throughout his service, General Braman has deployed over 36 months, supporting overseas contingency operations. And I thank you, General, for your service.

I now recognize Chairman Jennifer Homendy to deliver her opening statement.

STATEMENT OF HON. JENNIFER HOMENDY, CHAIRMAN, NATIONAL TRANSPORTATION SAFETY BOARD (NTSB)

Ms. HOMENDY. Thank you, Chairman Moran, Ranking Member Duckworth, Chairman Cruz, Ranking Member Cantwell, and members of the Subcommittee for the opportunity to provide you with an update on our investigation of the midair collision that occurred over the Potomac River near Reagan National Airport on January 29.

The NTSB knows tragedy all too well. We experience it every day, which is why we fight so hard for safety. Yesterday, we remembered the six lives lost during the collapse of the Key Bridge in Baltimore a year ago. Today, we once again mourn the 67 lives lost at DCA, the 7 in Philadelphia, 10 in Nome, Alaska.

We often talk about safety in terms of numbers, did accidents, fatalities go up or down. It is important that we remember today that those who died at DCA and in other accidents we investigate are not numbers. As you said, these are mothers, fathers, sons, daughters, wives, husbands, cousins, best friends, who won't be there with their loved ones for Easter egg hunts, Passover seders, the end of Ramadan, Mother's Day, Father's Day, graduation, all of life's celebrations.

Their families and friends, whether in person or online, are here today. I can only imagine what they are going through, and I want to take a moment to again express our deepest sympathies to each of them. Please know that we keep you in our hearts as we diligently work to determine how this tragedy happened so no one—no one—experiences the deeply significant loss you must feel today.

NTSB was on scene that night within an hour of the collision, and we remained there for over a month. Work continues to this day, including diving operations to recover personal effects and any remaining portions of the wreckage.

On March 11 we released our preliminary report, which contains only factual information that we have gathered in the first few weeks, all of which can change throughout the course of the investigation. It does not include analysis or findings, nor does it determine probable cause. Those will be in our final report.

But we do not wait for a final report to take action if we uncover critical safety issues that require immediate attention, which is why, in conjunction with the release of our preliminary report we also issued two urgent safety recommendations to the FAA. In both reports, we cited FAA surveillance data that showed between Octo-

ber 2021 and December 2024, there were over 15,000 close-proximity events between commercial aircraft and helicopters at DCA.

In reviewing that and other data, including airport operations and established helicopter routes, we determined that the separation distances between helicopter traffic operating on Route 4 and aircraft using runways 15 and 33 are insufficient and pose an intolerable risk to aviation safety.

As a result, we have recommended that the FAA prohibit operations on Helicopter Route 4 between Haines Point and Wilson Bridge when those runways are being used for departures and arrivals. We also recommended that the FAA designate an alternative helicopter route that can be used to facilitate travel between Haines Point and the Wilson Bridge when that segment of Route 4 is closed.

I want to commend Secretary Duffy for his swift acceptance of our recommendations. The Secretary and the Acting Administrator and the General have been tremendous partners throughout the course of this investigation, and I want to thank them for their commitment to safety.

I know we are all searching for answers, the right safety solutions. But the NTSB is the gold standard for accident investigations for a reason. We are thorough, and we are fact-based. We leave no stone unturned, and we let the evidence guide us. Investigations take time. We have a lot of work to do in this investigation, from interviews to analyses of large volumes of documents and data to review. To air carrier operations that we have to review, helicopter operations, air traffic control, human performance, helicopter air worthiness, flight recorders, and more. In total, we have about 40 NTSB experts leading this investigation, in collaboration with the parties and others, and we are aiming to complete this investigation within one year, barring, of course, any unforeseen circumstances.

I want to close by thanking you for your steadfast support of the NTSB, and I look forward to answering your questions.

[The prepared statement of Ms. Homendy follows:]

PREPARED STATEMENT OF HON. JENNIFER HOMENDY, CHAIRWOMAN, NATIONAL TRANSPORTATION SAFETY BOARD

Good morning, Chairman Moran, Ranking Member Duckworth, and members of the subcommittee. My name is Jennifer Homendy, and I am honored to serve as Chairman of the National Transportation Safety Board (NTSB).[1] Thank you for the opportunity to appear before you today to provide an update regarding the NTSB's investigation the midair collision involving a U.S. Army Sikorsky UH–60L (under the callsign PAT25) and PSA Airlines dba American Airlines flight 5342, a Mitsubishi Heavy Industries (MHI) RJ Aviation (formerly Bombardier) CL–600–

[1] The NTSB is an independent Federal agency charged by Congress with investigating and establishing the facts, circumstances, and cause or probable cause of all civil aviation accidents and serious incidents in the United States and defined accidents in all other modes of transportation, including roadway accidents, grade crossing incidents, railroad accidents, pipeline accidents, major marine casualties occurring on or under the navigable waters, internal waters, or the territorial sea of the United States, and other accidents related to the transportation of individuals or property when the Board decides the accident is catastrophic, the accident involves problems of a recurring character, or the investigation of the accident would carry out our statutory requirements. In addition, the NTSB carries out special studies concerning transportation safety and coordinates the resources of the Federal government and other organizations to aid victims and their family members impacted by major transportation disasters.

2C10 (CRJ700) that occurred over the Potomac River in southwest Washington, DC, about 2048 eastern standard time (EST) on January 29, 2025.

The 2 pilots, 2 flight attendants, and 60 passengers aboard the airplane and all 3 crewmembers aboard the helicopter were fatally injured. Both aircraft were destroyed as a result of the accident. Flight 5342 was operating under the provisions of Title 14 Code of Federal Regulations (CFR) Part 121 as a scheduled domestic passenger flight from Wichita Dwight D. Eisenhower National Airport (ICT), Wichita, Kansas, to DCA, departing ICT at 1839 EST. PAT25 originated from Davison Army Airfield (DAA), Fort Belvoir, Virginia, at 1845 EST on a visual flight rules (VFR) flight plan for the pilot's annual standardization evaluation with the use of night vision goggles. Night visual meteorological conditions prevailed in the area of DCA at the time of the accident.

Attached to this testimony are the following: Investigation Preliminary Report and Urgent Recommendation Report.

Before I begin, I want to take a moment and recognize the families and friends of those who lost loved ones in this tragedy. On behalf of the NTSB, I want to express my deepest condolences and our sympathies to each of you. Our mission is to determine what happened and why it happened so no one else experiences the loss you feel today. We keep you in mind every day, as we carry out our solemn mission to prevent future tragedy.

NTSB launched to the accident site that night and investigators remained at DCA for approximately four weeks. Work still continues on site, including diving operations to recover personal effects and any remaining portions of the wreckage.

As part of the investigative process, the NTSB invited qualified parties to participate in the investigation. These included Federal Aviation Administration (FAA), the U.S. Army, PSA Airlines, GE Aerospace, Sikorsky, National Air Traffic Controllers Association, Air Line Pilots Association, Association of Flight Attendants, International Association of Machinists and Aerospace Workers, Collins Aerospace, and the Metropolitan Washington Airports Authority.

The parties were formed into specialized investigative groups led by NTSB group chairs in the areas of Air Carrier Operations and Human Performance, Airplane Structures, Airplane Systems, Powerplants, Helicopter Operations and Human Performance, Air Traffic Control and Human Performance, Helicopter Airworthiness, Survival Factors, and Flight Recorders. This week, we formed another investigative group focused on Data Analysis.

There was a whole of government response to this major event, and I want to recognize some of the assistance we received in recovering the victims and wreckage: Metropolitan Washington Airports Authority, D.C. Fire and EMS Department, and other first responders from Virginia and Maryland, the U.S. Coast Guard, the Federal Bureau of Investigations, the U.S. Army Corps of Engineers, and U.S. Navy Supervisor of Salvage and Diving (SUPSALV).

On March 11, the NTSB released the preliminary report for this investigation, attached in full. It should be emphasized that, as with all preliminary reports, this document contains only factual information pertinent to the investigation. This information is preliminary and subject to change and does not include analysis or a probable cause of the collision, all of which will be issued at a later date as we continue to thoroughly investigate wherever the evidence may lead. There is a lot of work left to be done.

However, as is always the case with our investigations, NTSB does not need to wait until we determine a probable cause to take action if our investigation uncovers facts that demonstrate an intolerable risk to safety. In such cases, we do not hesitate to take urgent action, and in this case that is exactly what we have done.

In conjunction with the release of our preliminary report, we also issued two urgent safety recommendations (also attached) to the Federal Aviation Administration (FAA) concerning the helicopter routes near DCA. NTSB urgent recommendations require immediate action to prevent similar accidents or incidents. When we issue them, we believe a critical safety issue must be addressed, with no delay.

In the case of this investigation, while reviewing airport operations and prior incidents, including near mid-air collision events, and while reviewing the existing helicopter routes for helicopter traffic near DCA, NTSB determined that the existing separation distances between helicopter traffic operating on Route 4 and aircraft landing on runway 33 (the route and runway, respectively, that were in use during the crash) are insufficient, and pose an intolerable risk to aviation safety by increasing the chances of a midair collision at DCA. We've therefore issued an urgent recommendation to the FAA to prohibit operations on Helicopter Route 4 between Hains Point and the Wilson Bridge when runways 15 and 33 are being used for departures and arrivals at DCA.

Recognizing that a total closure of this route when the stated runways are in use would restrict a vital aviation corridor used for law enforcement activity, Coast Guard patrols, and continuity of government operations, and recognizing the potential for increased risk by adding to air traffic controller workload, we also recommended that the FAA designate an alternative helicopter route that can be used to facilitate travel between Hains Point and the Wilson Bridge when that segment of Route 4 is closed.

These recommendations were made because information gathered from voluntary safety reporting programs and the FAA regarding encounters between helicopters and commercial aircraft near DCA showed that, from 2011 through 2024, a vast majority of reported events occurred on approach to landing. Initial analysis found that at least one traffic alert and collision avoidance system, or TCAS, resolution advisory (RA) was triggered per month at DCA due to proximity to a helicopter. The response to TCAS RAs, unlike traffic advisories, or TAs, are recommended escape maneuvers; for example, climb, descend, or level off. While a TA is issued when the intruding aircraft is about 20 seconds from the closest point of approach, or 0.3 nautical miles, whichever occurs first, RA's indicate a collision threat and require immediate action.

In over half of the encounters we reviewed, again from 2011 through 2024, the helicopter may have been above the route altitude restriction. Two-thirds of these events occurred at night.

We then reviewed commercial operations at DCA and found that, between October 2021 and December 2024, there were a total of 944,179 commercial operations at DCA. These are instrument flight rules, or IFR, departures or arrivals. During that time, there were 15,214 occurrences between commercial airplanes and helicopters in which there was a lateral separation distance of less than 1 nautical mile and vertical separation of less than 400 ft. There were 85 recorded events that involved a lateral separation of less than 1500 ft *(or less than 0.3 nautical miles)* and vertical separation of less than 200 ft.

The chart below is a cross-section of the airspace that extends from Runway 33's centerline, spanning from the runway to the east bank of the Potomac River. The figure shows the separation distance that would exist, according to FAA charts, with a helicopter on Route 4 and an airplane descending on the glideslope to runway 33. At the maximum altitude of just 200 ft, a helicopter operating over the eastern shoreline of the Potomac River would have just 75 feet of vertical separation from an airplane approaching runway 33, and that distance decreases if the helicopter is operated farther from the shoreline.

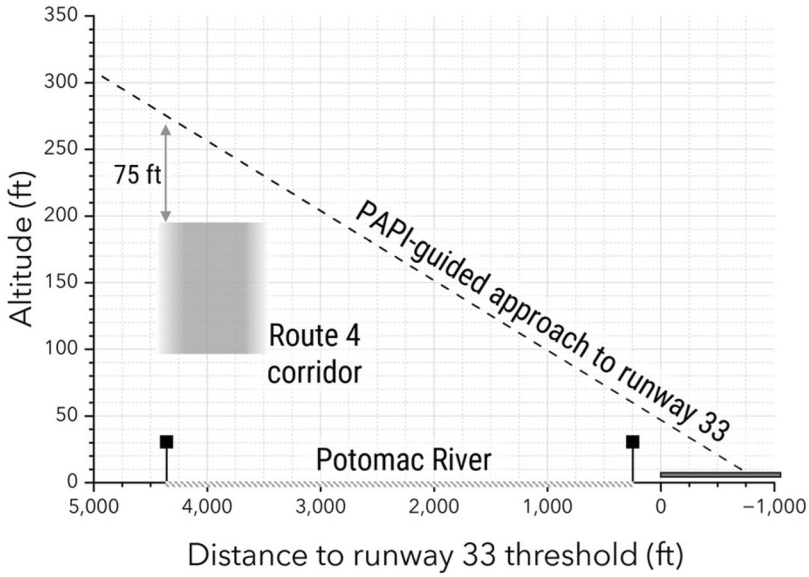


Figure 1. Cross section showing the notional separation between Route 4 and a PAPI-guided visual approach to runway 33, according to FAA charts and aerial photogrammetry analysis.

As a result of the accident, the FAA, under the leadership of U.S. Department of Transportation Secretary Duffy took swift action to ensure safety and restrict helicopter traffic from operating over the Potomac River near DCA until March 31st, and we commend him for that. However, as that deadline nears, NTSB remains concerned about the significant potential for a future midair collision at DCA given the facts we have uncovered. I am pleased to share with you that the Secretary has taken our urgent recommendations very seriously, and I look forward to working with him, Acting Administrator Rocheleau, and Congress to see them implemented as we move forward with this investigation.

Some investigations, understandably, get more public attention than others, but all of our investigations are critical for improving transportation safety. We know that we owe it to the families of those involved, to the communities where events occurred, and to the traveling public to find out what happened, why it happened, and to make recommendations to help ensure it never happens again. Our current investigative workload includes almost 1,250 active investigations in all 50 states and Puerto Rico, in addition to supporting more than 160 foreign investigations in over 50 countries. Throughout a typical year, we work on about 2,200 domestic and 450 foreign cases, and we expect the number of cases annually to remain high and continue to increase in complexity. Some of our significant ongoing investigations of events that have occurred this year include:

- The in-flight structural failure of a Boeing 737–9 MAX
- The contact of a container ship with the Francis Scott Key Bridge, and subsequent bridge collapse, in Baltimore, Maryland
- A multivehicle work zone collision on Interstate 35 in Austin, Texas.
- A Boeing 737–800 engine fire in Denver, Colorado.
- A medical transport helicopter crash in Canton, Mississippi.
- A gas leak and pipeline explosion in Hutchinson, Kansas.
- A multivehicle crash and postcrash fire on I–80 in Green River, Wyoming.
- A collision between two light rail trains with a derailment in Somerville, Massachusetts.
- A train fire and passenger evacuation in Ridley Park, Pennsylvania.
- A crash of a Bering Air Cessna 208B Grand Caravan in Nome, Alaska.
- A Learjet 55 Medevac crash in Philadelphia, Pennsylvania.

In addition, we continue to investigate other significant events, including:

- A multivehicle crash, including a motorcoach carrying members of a high school band in Etna, Ohio.
- A multivehicle crash on the Ohio Turnpike in Swanton, Ohio.
- A multivehicle crash between a motorcoach and tractor-trailers parked along a rest area ramp in Highland, Illinois.
- A tanker truck rollover and rupture with anhydrous ammonia release in Teutopolis, Illinois.
- A grade-crossing collision in Pecos, Texas.
- A collision involving a vehicle operating with partial driving automation in San Antonio, Texas.
- A collision between two vehicles resulting in a postcrash fire in Carrizo Springs, Texas.
- Rail employee fatalities and injuries in Illinois, New Jersey, North Carolina, and Wisconsin.
- Natural gas-fueled explosions in Youngstown, Ohio, South Jordan, Utah, and Jackson, Mississippi.
- A multivehicle work zone collision and postcrash fire on I–95 in Kenly, North Carolina.
- A train derailment and hazardous materials release in Manuelito, New Mexico.
- A school bus roadway departure and overturn in Millstone, West Virginia.
- A fire aboard a container ship at Port of Newark, New Jersey.
- A vehicle collision with a stopped school bus, fatally injuring a student pedestrian, in Excelsior, Wisconsin.

We currently have over a thousand open safety recommendations across all modes as a result of our investigations. In 2024, we issued 132 new safety recommendations and closed 86. Of those closed, excluding those that were classified reconsid-

ered, no longer applicable, and superseded, 58 (77 percent) were closed acceptably, meaning that the recommendation recipient took action to implement the safety recommendation. This includes actions to enhance aviation safety by requiring operators to implement safety management systems, to increase focus on highway bridge maintenance, to help prevent damage to underwater pipelines, and to help prevent train derailments due to unexpected weather conditions. This success rate demonstrates the value of our recommendations. Our recommendations are meaningful, and we appreciate the efforts of recipients to address them.

The NTSB is a small agency that plays a vital role in ensuring public safety and protection of life and property in all that we do. I appreciate the need to right-size the Federal workforce; in fact, I strongly agree with that goal. However, the NTSB runs lean; we always have. We have just 430 employees to carry out our mission and are authorized by Congress to go up to 450, though we would need significantly more than that to truly be fully staffed. We punch far above our weight. Everyone at the NTSB plays a role in achieving our mission to make transportation safer. Their hard work, professionalism, and dedication around the clock is the reason that the NTSB is regarded as the world's preeminent safety agency. To complete our investigations and develop recommendations that advance safety changes without delays, we must meet the challenges that come with increasing growth and innovation in transportation. Therefore, it is critical for the agency to have additional resources to respond to events without affecting our timeliness, the quality of our work, or our independence.

I want to thank the committee for your support in last year's NTSB reauthorization bill to increase NTSB's funding for the next 4 years. As a result of Congress' support, we have been able to make much needed progress in hiring for the agency. The vast majority of that growth has been in our investigative offices (Aviation Safety, Highway Safety, Marine Safety, and Railroad, Pipeline, and Hazardous Materials Investigations). Still, despite those efforts, we continue to need additional investigative staff, as well as staff in the operational offices where increases have not occurred to the same extent. This includes staff in General Counsel to work through a backlog of petitions for reconsideration of investigations and airman, mechanic or mariner's certificate appeals, as well as party-related issues and external legal disputes; staff in the Office of the Managing Director to enhance the agency's overall use of data to improve the NTSB's effectiveness and innovation; staff in the Office of the Chief Information Officer to address mandated cybersecurity enhancements and the backlog of Freedom of Information Act requests; and staff in Human Capital and Training to support recruitment, hiring, and other actions critical to developing and retaining a highly-productive workforce.

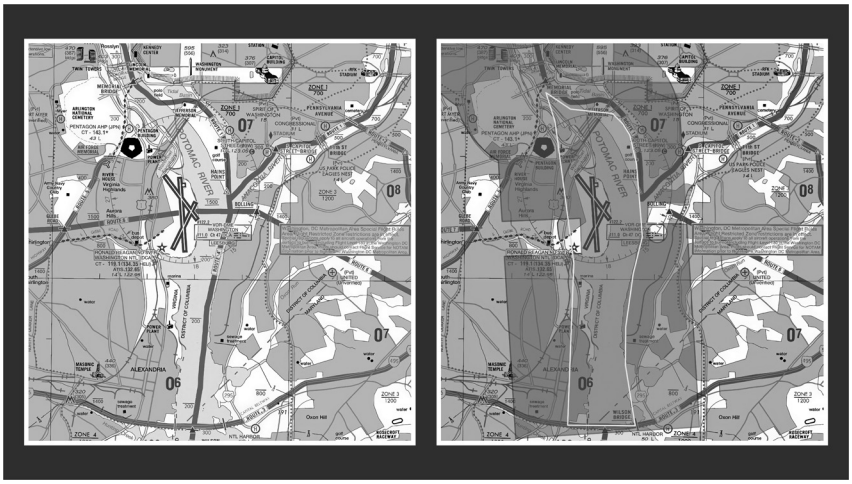
The fact is, our greatest asset is our workforce, which accounts for over 70 percent of our costs. We rely on a staff of highly skilled individuals with technical expertise in such areas as aerospace, electrical, and mechanical engineering; chemistry; metallurgy; human performance; and other specialized fields to conduct accident investigations and identify life-saving safety improvements. We must continue to attract and retain talent with expertise in emerging technologies and the transportation systems of tomorrow. And without our workforce, we will not be able to carry out our congressionally mandated mission to protect public safety. Our workforce is highly technical, and approximately 25 percent of the employees are retirement eligible within 1 year; this number increases to approximately 40 percent over the next 5 years. We need to build a deeper bench *now* to prepare for upcoming attrition.

For the NTSB to carry out its mission-critical work, we must have a fully trained workforce ready to respond to more than 1300 new accidents per year, 24 hours a day, 7 days a week, and deliver comprehensive, timely, and concise investigation outcomes and safety recommendations to protect life and property and prevent future transportation-related accidents and injuries from occurring.

Before I close, I want to thank Senate and House leaders on both sides of the aisle, as well as President Trump, Vice President Vance, and Secretary Duffy for their tremendous support of the NTSB. As examples, we were granted exemptions from the deferred resignation program and the Federal hiring freeze, and we currently have 14 critical positions, nearly all investigative roles, posted on USA Jobs. The Administration and each of you have been very supportive of our work to ensure public safety, and we thank you all for your efforts.

I respectfully request that Congress continue to support our ability to carry out our critical safety mission now and into the future; to recruit, retain, and develop a highly qualified and specialized workforce; and to prepare the agency for investigations involving emerging transportation technologies and systems to improve transportation safety.

ATTACHMENTS



Recommendation Report

3/19/2025 4:00:00 PM

Rec #: A-06-021, A-06-022, A-07-025, A-07-026, A-09-093, A-10-009, A-17-042, A-21-015, A-21-016, A-21-017, A-21-028, A-21-029, A-21-030, A-22-012, A-22-013, A-22-016, A-22-017

Product/Notation Id	29509 /	**Accident Date:**	03/23/04	**Issue Date:**	03/24/06
City/State:	Gulf of Mexico, GM	**Accident #:**	DCA04MA030	**Most Wanted List:**	No

On March 23, 2004, about 1918:34 central standard time, an Era Aviation Sikorsky S-76A++ helicopter, N579EH, crashed into the Gulf of Mexico about 70 nautical miles (nm) south-southeast of Scholes International Airport (GLS), Galveston, Texas. The helicopter was transporting eight oil service personnel to the Transocean, Inc., drilling ship Discoverer Spirit, which was en route to a location about 180 miles south-southeast of GLS. The captain, copilot, and eight passengers aboard the helicopter were killed, and the helicopter was destroyed by impact forces. The flight was operating under the provisions of 14 Code of Federal Regulations Part 135 on a visual flight rules flight plan. Night visual meteorological conditions prevailed at the time of the accident.

Recommendation # :		A-06-021	**Overall Status:**	Closed - Acceptable Action	CLASS II
TO THE FEDERAL AVIATION ADMINISTRATION: Ensure that the infrastructure for the National Automatic Dependent Surveillance Broadcast Program in the Gulf of Mexico is operational by fiscal year 2010.					
# of Addressees:	1			**Overall Date Closed:**	12/22/11
Addressee:	FAA		Closed - Acceptable Action	**Date Closed:**	12/22/11

07/07/06	Addressee	Official Correspondence	35722
Letter Mail Controlled 7/17/2006 4:17:14 PM MC# 2060341: - From Marion C. Blakey, Administrator: An extensive briefing on the ADS-B program was provided to the Board Members and staff by the FAA program manager on June 15,2006, which included a discussion of the progress of the program for the Gulf of Mexico. A copy of the presentation materials for that briefing is enclosed. I will keep the Board informed on the progress of this program for the Gulf of Mexico.			
04/12/07	NTSB	Official Correspondence	35722
On June 15, 2006, the FAA provided a briefing for the Safety Board on the ADS-B program including the plans for this program to be installed and operational in the Gulf of Mexico before the end of FY-2010. Pending completion of the ADS-B system for the Gulf of Mexico before the end of FY-2010, Safety Recommendation A-06-21 is classified OPEN -- ACCEPTABLE RESPONSE.			
10/18/11	Addressee	Official Correspondence	16062
From J. Randolph Babbitt, Administrator: The Federal Aviation Administration (FAA) completed the implementation of the Automatic Dependent Surveillance-Broadcast (ADS-B) for the Gulf of Mexico. It was declared operational in December 2009. ADS-B coverage provided to the Gulf of Mexico includes the entire operating airspace for helicopter operations. In addition to the 21 operational ADS-B radios that provide coverage offshore in the Gulf of Mexico, the FAA also installed voice communications and weather observation systems, which provide additional services over the airspace served by the hundreds of helicopters operating in the Gulf of Mexico. I believe the FAA has effectively addressed this safety recommendation and I consider our actions complete.			
12/22/11	NTSB	Official Correspondence	16062
We note that, in December 2009, the FAA completed the implementation of ADS-B for the Gulf of Mexico, as recommended. Accordingly, Safety Recommendation A-06-21 is classified CLOSED—ACCEPTABLE ACTION.			
02/25/20	NTSB	NPRM Response	64746

The National Transportation Safety Board (NTSB) has reviewed the Federal Aviation Administration's (FAA) notice of proposed rulemaking (NPRM) titled, "Remote Identification of Unmanned Aircraft Systems," which was published at 84 Federal Register 72438 on December 31, 2019. We welcome the opportunity to provide comments on this NPRM, which the FAA has identified as an important step in safely integrating unmanned aircraft (or drones, as defined in the NPRM) into the national airspace system (NAS). The FAA stated that remote identification (remote ID) for unmanned aircraft systems (UAS), which includes location information for both the unmanned aircraft and the ground control station, is a necessary milestone for supporting expanded operations, such as those involving cargo delivery, flights over people, and flights beyond visual line of sight.
The NTSB has a long history (dating back to 1969) of supporting the use of technologies that provide certain identification and location information for manned aircraft, based on the ability of these technologies to improve aviation safety. Over the past few decades, we have issued numerous safety recommendations for the use of technologies to enable pilots, air traffic controllers, and other personnel (such as operators' flight-followers) to maintain awareness of aircraft location, both in the NAS and in proximity to other aircraft. Thus, in the context of aviation safety, we support the general concept of remote ID for UAS. We offer our comments on the NPRM as a general concurrence with the concept as a milestone for enabling the safe integration of a wide variety of UAS operations into the NAS by supporting enhanced aeronautical services, such as collision avoidance and air traffic management.

For example, between 2006 and 2007, we recommended requirements for equipment that could provide increased aircraft identification, location, and communication capabilities for manned aircraft operations in the Gulf of Mexico and remote areas of Hawaii and Alaska, with the intent of enhancing flight location, collision avoidance, and weather information services for these operations (Safety Recommendations A-06-21 and -22 and A-07-25 and 26). In addition, following the 2006 midair collision involving a business jet and a transport-category airplane over Brazil that claimed 154 lives, we recommended requirements for equipment that could provide pilots with enhanced alerts regarding the status of transponder and traffic collision-avoidance capabilities (Safety Recommendations A-07-35 through -37). Following the 2007 fatal midair collision of two news-gathering helicopters over Phoenix, Arizona, the NTSB sought to enhance the traffic-avoidance logic for helicopters' onboard equipment by recommending the development of standards and requirements for the incorporation of specific criteria for the types of maneuvers and environments unique to helicopters (Safety Recommendations A-09-4 and -5, superseded by A 10-127 and 128). We have also gone on record as supporting the importance of aircraft identification and location equipment on unmanned aircraft following the crash of a Predator B in Nogales, Arizona, in 2006 (more information about this accident, NTSB case number CHI06MA121, is available at https://ntsb.gov/_layouts/ntsb.aviation/index.aspx). For example, between 2006 and 2007, we recommended requirements for equipment that could provide increased aircraft identification, location, and communication capabilities for manned aircraft operations in the Gulf of Mexico and remote areas of Hawaii and Alaska, with the intent of enhancing flight location, collision avoidance, and weather information services for these operations (Safety Recommendations A-06-21 and -22 and A-07-25 and 26). In addition, following the 2006 midair collision involving a business jet and a transport-category airplane over Brazil that claimed 154 lives, we recommended requirements for equipment that could provide pilots with enhanced alerts regarding the status of transponder and traffic collision-avoidance capabilities (Safety Recommendations A-07-35 through -37). Following the 2007 fatal midair collision of two news-gathering helicopters over Phoenix, Arizona, the NTSB sought to enhance the traffic-avoidance logic for helicopters' onboard equipment by recommending the development of standards and requirements for the incorporation of specific criteria for the types of maneuvers and environments unique to helicopters (Safety Recommendations A-09-4 and -5, superseded by A 10-127 and 128). We have also gone on record as supporting the importance of aircraft identification and location equipment on unmanned aircraft following the crash of a Predator B in Nogales, Arizona, in 2006 (more information about this accident, NTSB case number CHI06MA121, is available at https://ntsb.gov/_layouts/ntsb.aviation/index.aspx).

Recommendation Report

3/19/2025 4:00:00 PM

Product/Notation Id	29509 /	**Accident Date:**	03/23/04	**Issue Date:**	03/24/06
City/State:	Gulf of Mexico, GM	**Accident #:**	DCA04MA030	**Most Wanted List:**	No

On March 23, 2004, about 1918:34 central standard time, an Era Aviation Sikorsky S-76A++ helicopter, N579EH, crashed into the Gulf of Mexico about 70 nautical miles (nm) south-southeast of Scholes International Airport (GLS), Galveston, Texas. The helicopter was transporting eight oil service personnel to the Transocean, Inc., drilling ship Discoverer Spirit, which was en route to a location about 180 miles south-southeast of GLS. The captain, copilot, and eight passengers aboard the helicopter were killed, and the helicopter was destroyed by impact forces. The flight was operating under the provisions of 14 Code of Federal Regulations Part 135 on a visual flight rules flight plan. Night visual meteorological conditions prevailed at the time of the accident.

Recommendation # :	A-06-022	**Overall Status:**	Closed - Acceptable Action	CLASS II

TO THE FEDERAL AVIATION ADMINISTRATION: Until the infrastructure for the National Automatic Dependent Surveillance Broadcast Program in the Gulf of Mexico is fully operational, require principal operations inspectors of Gulf of Mexico aircraft operators to inform the operators about the benefits of commercial flight-tracking systems and encourage the operators to acquire such systems.

# of Addressees:	1	**Overall Date Closed:**	04/12/07
Addressee:	FAA	**Date Closed:**	04/12/07

07/07/06	Addressee	Official Correspondence	35722

Letter Mail Controlled 7/17/2006 4:17:14 PM MC# 2060341: The FAA will issue a SAFO advising the operators in the Gulf of Mexico that there are commercial flight-tracking systems available and that the use of these systems may provide a safer method of tracking aircraft until the National Automatic Dependent
Surveillance-Broadcast Program in the Gulf of Mexico is fully functional. The SAFO will be issued by July 30,2006. I will provide the Board with a copy of the SAFO as soon as it is issued.

04/12/07	NTSB	Official Correspondence	116

On November 8, 2006, the FAA issued SAFO 06018, Notification of Available ADS-B Services to Commercial Operators. The SAFO informs operators in remote areas, such as the Gulf of Mexico, that ADS-B will not be fully operational for several years, but operators are still required to provide flight locating service for their aircraft. The SAFO notes that until ADS-B is fully operational, operators should make use of currently available flight tracking systems.

The Safety Board notes that the recommendation asks the FAA to inform operators about the benefits of commercial flight-tracking systems and encourage the operators to acquire such systems (emphasis added). The SAFO recommends that operators use commercially available flight tracking systems but does not inform them of the benefits or encourage the systems' acquisition. However, although the Safety Board believes that the document should have done more, the SAFO minimally satisfies the recommendation. Therefore, Safety Recommendation A-06-22 is classified Closed Acceptable Action.

02/25/20	NTSB	NPRM Response	64746

The National Transportation Safety Board (NTSB) has reviewed the Federal Aviation Administration's (FAA) notice of proposed rulemaking (NPRM) titled, "Remote Identification of Unmanned Aircraft Systems," which was published at 84 Federal Register 72438 on December 31, 2019. We welcome the opportunity to provide comments on this NPRM, which the FAA has identified as an important step in safely integrating unmanned aircraft (or drones, as defined in the NPRM) into the national airspace system (NAS). The FAA stated that remote identification (remote ID) for unmanned aircraft systems (UAS), which includes location information for both the unmanned aircraft and the ground control station, is a necessary milestone for supporting expanded operations, such as those involving cargo delivery, flights over people, and flights beyond visual line of sight.
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For example, between 2006 and 2007, we recommended requirements for equipment that could provide increased aircraft identification, location, and communication capabilities for manned aircraft operations in the Gulf of Mexico and remote areas of Hawaii and Alaska, with the intent of enhancing flight location, collision avoidance, and weather information services for these operations (Safety Recommendations A-06-21 and -22 and A-07-25 and 26). In addition, following the 2006 midair collision involving a business jet and a transport-category airplane over Brazil that claimed 154 lives, we recommended requirements for equipment that could provide pilots with enhanced alerts regarding the status of transponder and traffic collision-avoidance capabilities (Safety Recommendations A-07-35 through -37). Following the 2007 fatal midair collision of two news-gathering helicopters over Phoenix, Arizona, the NTSB sought to enhance the traffic-avoidance logic for helicopters' onboard equipment by recommending the development of standards and requirements for the incorporation of specific criteria for the types of maneuvers and environments unique to helicopters (Safety Recommendations A-09-4 and -5, superseded by A 10-127 and 128). We have also gone on record as supporting the importance of aircraft identification and location equipment on unmanned aircraft following the crash of a Predator B in Nogales, Arizona, in 2006 (more information about this accident, NTSB case number CHI06MA121, is available at https://ntsb.gov/_layouts/ntsb.aviation/index.aspx). For example, between 2006 and 2007, we recommended requirements for equipment that could provide increased aircraft identification, location, and communication capabilities for manned aircraft operations in the Gulf of Mexico and remote areas of Hawaii and Alaska, with the intent of enhancing flight location, collision avoidance, and weather information services for these operations (Safety Recommendations A-06-21 and -22 and A-07-25 and 26). In addition, following the 2006 midair collision involving a business jet and a transport-category airplane over Brazil that claimed 154 lives, we recommended requirements for equipment that could provide pilots with enhanced alerts regarding the status of transponder and traffic collision-avoidance capabilities (Safety Recommendations A-07-35 through -37). Following the 2007 fatal midair collision of two news-gathering helicopters over Phoenix, Arizona, the NTSB sought to enhance the traffic-avoidance logic for helicopters' onboard equipment by recommending the development of standards and requirements for the incorporation of specific criteria for the types of maneuvers and environments unique to helicopters (Safety Recommendations A-09-4 and -5, superseded by A 10-127 and 128). We have also gone on record as supporting the importance of aircraft identification and location equipment on unmanned aircraft following the crash of a Predator B in Nogales, Arizona, in 2006 (more information about this accident, NTSB case number CHI06MA121, is available at https://ntsb.gov/_layouts/ntsb.aviation/index.aspx).

Recommendation Report

3/19/2025 4:00:00 PM

Product/Notation Id	29910 /	**Accident Date:**	09/24/04	**Issue Date:**	02/27/07
City/State:	Kalaheo, HI	**Accident #:**	LAX04FA329	**Most Wanted List:**	No

On September 24, 2004, about 1642 Hawaiian standard time, a Bell 206B helicopter, N16849, registered to and operated by Bali Hai Helicopter Tours, Inc., of Hanapepe, Hawaii, impacted mountainous terrain in Kalaheo, Hawaii, on the island of Kauai, 8.4 miles northeast of Port Allen Airport in Hanapepe. The commercial pilot and the four passengers were killed, and the helicopter was destroyed by impact forces and postimpact fire. The nonstop sightseeing air tour flight was operated under the provisions of 14 Code of Federal Regulations (CFR) Part 91 and visual flight rules (VFR) with no flight plan filed. Instrument meteorological conditions (IMC) prevailed near the accident site.

Recommendation # :		A-07-025	**Overall Status:**	Closed - Acceptable Action	CLASS II

TO THE FEDERAL AVIATION ADMINISTRATION: Accelerate the implementation of automatic dependent surveillance-broadcast (ADS-B) infrastructure in the State of Hawaii to include high-quality ADS-B services to low-flying aircraft along heavily traveled commercial air tour routes.

# of Addressees:	1			**Overall Date Closed:**	11/20/15
Addressee:	FAA		Closed - Acceptable Action	**Date Closed:**	11/20/15

05/17/07	Addressee	Official Correspondence	14168

Letter Mail Controlled 5/31/2007 8:30:30 AM MC# 2070237: - From Marion C. Blakey, Administrator: The state of Hawaii is scheduled to have ADS-B deployed by 2013. The FAA's Surveillance and Broadcast Services program office has engaged in talks with the Helicopter Association International (HAI) to explore setting up a Memorandum of Agreement (MOA) with air tour operators in Hawaii. This MOA will be similar to the MOA with operators in the Gulf of Mexico.
We believe that an MOA would provide a mutually beneficial relationship. The helicopter operators would voluntarily equip with compatible avionics and the agency would possibly change the timing of the deployment schedule for Hawaii.

12/04/07	NTSB	Official Correspondence	14168

The FAA responded that Hawaii is currently scheduled to have ADS-B deployed by 2013. The FAA is currently exploring the possibility of creating Memorandums of Agreement (MOAs) with air tour operators in Hawaii that would establish helicopter operators' voluntarily equipping their aircraft with the avionics needed to use ADS-B, and the FAA's changing the timing of the ADS-B deployment schedule for Hawaii. Pending the creation and adoption of MOAs that result in the acceleration of the ADS-B implementation schedule for Hawaii, Safety Recommendation A-07-25 is classified OPEN -- ACCEPTABLE RESPONSE.

11/10/11	Addressee	Official Correspondence	36546

-From J. Randolph Babbitt, Administrator: The Federal Aviation Administration (FAA) conducted an Alternatives Analysis (enclosed) to determine the best solution for surveillance, weather, and communications needed to improve service for the Hawaii Tour Operators. The baseline deployment for ADS-B on all Hawaiian Islands is on schedule for 2013.
The island of Kauai was selected as the initial 'pilot' project due to historical accidents and potential for ADS-B benefits. Due to operational differences on each Hawaiian island, it was determined that it would be more realistic to approach one island at a time. To support in-flight surveillance and weather capabilities, the preferred alternative for Kauai would entail implementation of additional ADS-B infrastructure (including the flight information service - broadcast service), supplemented with six weather cameras for preflight information. However, the implementation of this alternative will only be feasible with ADS-B equipage by air tour operators.
As previously mentioned, it is our intent to create a Memorandum of Agreement (MOA) once air tour operators express interest in equipage with ADS-B. Unfortunately, we are not aware of any operator that has expressed an interest in equipping with ADS-B, or interest in participating in an MOA prior to the 2020 mandate. At this time the FAA does not have funding allocated for the additional radio stations and expansion of weather cameras and finds little to no value in doing so until air tour operators equip with ADS-B.
I will keep the Board informed of the FAA's progress on these safety recommendations and provide an updated response by May 31, 2012.

02/29/12	NTSB	Official Correspondence	36546

We note that the FAA remains on schedule to deploy ADS-B in Hawaii by 2013. Pending completion of this effort as scheduled, Safety Recommendation A-07-25 remains classified OPEN—ACCEPTABLE RESPONSE.

08/28/12	Addressee	Official Correspondence	16395

-From Michael P. Huerta, Acting Administrator: In 2009, the Federal Aviation Administration's (FAA) Surveillance Broadcast System Program Office facilitated a thorough safety analysis of weather and surveillance coverage over the Hawaiian Islands to determine the benefit of Automatic Dependent Surveillance Broadcast (ADS-B) for helicopter tour operators. Since each Hawaiian Island is unique, the analysis was scoped to assess Kauai as a representative island, supported by historical accident rate criteria. As part of the analysis, the team evaluated radar, Wide-Area Multilateration, and ADS-B technologies. It was determined that ADS-B was the only surveillance source that met the needs of the tour operators.

Based on the result of the analysis, the FAA plans to increase the number of ADS-B radio stations on the island of Kauai. While the current program baseline is scheduled to deploy two radio stations, the analysis indicates there would be a need for an additional three radio stations above the current program baseline. Also, the analysis concluded there would be a need to deploy six weather cameras, which would be a new service on the island.

ADS-B Implementation in Hawaii:

The FAA plans to provide an ADS-B ground infrastructure in Hawaii as part of a national implementation plan. The baseline for implementation in the Hawaiian Islands is scheduled for 2013. This will provide pilot advisory services (i.e., traffic and weather information to properly equipped aircraft). In addition, the FAA will provide air traffic separation services by April 2014. An approximate implementation schedule for the Hawaiian Islands is listed in the table below.

Name: Honolulu Enroute Planned radio station installation: April 2013 Testing: February 2014 Pilot Advisory Services: March 2014 ATC Separation Services: April 2014 Number of Radio stations proposed: 1 (at Molokai and coverage by Terminal Ration station news)

Name: Hilo Terminal Planned Radio Station Installation: April 2013 Testing: January 2014 Pilot advisory services: March 2014 ATC separation services: April 2014 Number of radio stations (proposed): 3

Name: Lihue (Kauai) Terminal Planned Radio station installation: April 2013 Testing: January 2014 Pilot advisory services: March 2014 ATC separation services: April 2014 Number of Radio Station Proposed: 2

Name: Kahului Terminal Planned Radio station installation: April 2013 Testing: January 2014 Pilot advisory services: March 2014 ATC separation services: April 2014 Number of Radio Station Proposed: 1

Name: Honolulu Terminal Planned Radio station installation: April 2013 Testing: January 2014 Pilot advisory services: March 2014 ATC separation services: April 2014 Number of Radio Station Proposed: 2

Name: Honolulu Surface Planned Radio station installation: May 2013 Testing: January 2014 Pilot advisory services: March 2014 ATC separation services: April 2014 Number of Radio Station Proposed: 3

ADS-B Implementation Considerations:
a. The implementation of the recommendations will only be feasible if the air tour operators equip with ADS-B compatible avionics;
b. Presently, the helicopter tour operators have not shown an interest in equipping their aircraft;
c. A memorandum of agreement will be created if air tour operators express interest in equipping with ADS-B;
d. The analysis will only expand to look at other islands if strong interest in ADS-B equipage is expressed by the tour operators; and
e. This analysis will serve as additional data if any stimulus funding becomes available for incentivizing equipage.

I will keep the Board informed of the FAA's progress on these recommendations and provide an update by August 31, 2013.

11/20/12	NTSB	Official Correspondence	16395

The FAA indicated that the ADS-B ground infrastructure in the Hawaiian Islands is still scheduled to be installed by 2013. Pending completion of this effort as scheduled, Safety Recommendation A-07-25 remains classified OPEN—ACCEPTABLE RESPONSE.

03/18/14	Addressee	Official Correspondence	17557

-From Michael P. Huerta, Administrator: The Federal Aviation Administration (FAA) continues to make progress with the installation of ADS-B ground infrastructure in Hawaii. As stated in our previous response, helicopter tour operators are not required to equip ADS-B (Out or In) to fly in the airspace.

Hawaiian air tour operators fly in a portion of airspace that will not be affected by the Automatic Dependent Surveillance - Broadcast (ADS-B) Out Performance Requirements to Support Air Traffic Control (A TC) Services Final Rule (75 FR 30 160). The FAA sought a memorandum of agreement to ensure commitment. However, the tour operators have not shown interest in equipping with ADS-B. Therefore, this is no longer a viable alternative. Investments in expanding the ground infrastructure would not yield any safety improvements unless the tour operators have the appropriate avionics to achieve the safety benefits. The ADS-B Pilot Advisory Services will be available to a large percentage of the islands by April2014 and the FAA anticipates improved safety benefits if helicopter tour operators become properly equipped.
The current status of ADS-B ground infrastructure is as follows:

Name, Planned Radio Station Installation, Testing, Pilot Advisory Services, Estimated Number of Contributing Radio Stations Planned

Honolulu En Route SV-161, Feb 2014, Mar 2014, Apr2014, Aug 2014, 12
Hilo Terminal SV-236 Feb 2014, Mar2014, Apr 2014, Aug 2014, 3
Lihue (Kauai) Terminal SV-237 Feb2014, Mar 2014, Apr 2014, Aug 2014, 5
Kahului Terminal SV-70 Feb 2014, Mar 2014, Apr 2014, Aug 2014, 5
Honolulu Terminal SV-11 Feb 2014, Mar 2014, Apr 2014, Aug 2014, 4
Honolulu -Hickam AFB Surface SV- 192 Feb 2014, Mar 2014, Apr 2014, Aug2014, 2
Hawaii CTV -1022 Feb 2014, Mar 2014, Apr 2014, Aug2014, 12

I will keep the Board informed on the progress of these recommendations and provide an update by December 31, 2014.

04/18/14	NTSB	Official Correspondence	17557

We note that, as of April 2014, ADS-B Pilot Advisory Services are available to much of the Hawaiian Islands and that you expect to complete installation of the ADS-B ground infrastructure in Hawaii by the end of August 2014. Although approximately a year behind previous schedules, and not expedited as recommended, timely completion of the ADS-B ground infrastructure will satisfy the recommendation. Pending your taking that action, Safety Recommendation A 07-25 remains classified OPEN—ACCEPTABLE RESPONSE.

10/14/15	Addressee	Official Correspondence	19253

-From Michael P. Huerta, Administrator: The Federal Aviation Administration (FAA) has completed the installation of ADS-B infrastructure in Hawaii and continues to integrate ADS-B services. ADS-B Pilot Advisory Services have been available within a large percentage of the airspace surrounding the Hawaiian Islands, including Honolulu En Route Service, Lihue, Kahului, Honolulu Terminal, and Hickam Air Force Base service since September 20 14. These Pilot Advisory Services provide increased situation awareness and safety benefits directly to all properly equipped aircraft within the covered airspace. Air Traffic Control Separation Services initial operating capability began on August 18, 2015.

I will keep the Board informed of the FAA's progress on this recommendation and provide an update by September 30, 2016.

11/20/15	NTSB	Official Correspondence	19253

We note that you have completed the installation of the ADS-B infrastructure in Hawaii and that ADS-B Pilot Advisory Services have been available within most of the airspace surrounding the Hawaiian Islands since September 2014. We further note that air traffic separation services using ADS-B in Hawaii began on August 18, 2015. These actions satisfy Safety Recommendation A-07-25, which is classified CLOSED—ACCEPTABLE ACTION.

02/25/20	NTSB	NPRM Response	64746

The National Transportation Safety Board (NTSB) has reviewed the Federal Aviation Administration's (FAA) notice of proposed rulemaking (NPRM) titled, "Remote Identification of Unmanned Aircraft Systems," which was published at 84 Federal Register 72438 on December 31, 2019. We welcome the opportunity to provide comments on this NPRM, which the FAA has identified as an important step in safely integrating unmanned aircraft (or drones, as defined in the NPRM) into the national airspace system (NAS). The FAA stated that remote identification (remote ID) for unmanned aircraft systems (UAS), which includes location information for both the unmanned aircraft and the ground control station, is a necessary milestone for supporting expanded operations, such as those involving cargo delivery, flights over people, and flights beyond visual line of sight.
The NTSB has a long history (dating back to 1969) of supporting the use of technologies that provide certain identification and location information for manned aircraft, based on the ability of these technologies to improve aviation safety. Over the past few decades, we have issued numerous safety recommendations for the use of technologies to enable pilots, air traffic controllers, and other personnel (such as operators' flight-followers) to maintain awareness of aircraft location, both in the NAS and in proximity to other aircraft. Thus, in the context of aviation safety, we support the general concept of remote ID for UAS. We offer our comments on the NPRM as a general concurrence with the concept as a milestone for enabling the safe integration of a wide variety of UAS operations into the NAS by supporting enhanced aeronautical services, such as collision avoidance and air traffic management.

For example, between 2006 and 2007, we recommended requirements for equipment that could provide increased aircraft identification, location, and communication capabilities for manned aircraft operations in the Gulf of Mexico and remote areas of Hawaii and Alaska, with the intent of enhancing flight location, collision avoidance, and weather information services for these operations (Safety Recommendations A-06-21 and -22 and A-07-25 and 26). In addition, following the 2006 midair collision involving a business jet and a transport-category airplane over Brazil that claimed 154 lives, we recommended requirements for equipment that could provide pilots with enhanced alerts regarding the status of transponder and traffic collision-avoidance capabilities (Safety Recommendations A-07-35 through -37). Following the 2007 fatal midair collision of two news-gathering helicopters over Phoenix, Arizona, the NTSB sought to enhance the traffic-avoidance logic for helicopters' onboard equipment by recommending the development of standards and requirements for the incorporation of specific criteria for the types of maneuvers and environments unique to helicopters (Safety Recommendations A-09-4 and -5, superseded by A 10-127 and 128). We have also gone on record as supporting the importance of aircraft identification and location equipment on unmanned aircraft following the crash of a Predator B in Nogales, Arizona, in 2006 (more information about this accident, NTSB case number CHI06MA121, is available at https://ntsb.gov/_layouts/ntsb.aviation/index.aspx). For example, between 2006 and 2007, we recommended requirements for equipment that could provide increased aircraft identification, location, and communication capabilities for manned aircraft operations in the Gulf of Mexico and remote areas of Hawaii and Alaska, with the intent of enhancing flight location, collision avoidance, and weather information services for these operations (Safety Recommendations A-06-21 and -22 and A-07-25 and 26). In addition, following the 2006 midair collision involving a business jet and a transport-category airplane over Brazil that claimed 154 lives, we recommended requirements for equipment that could provide pilots with enhanced alerts regarding the status of transponder and traffic collision-avoidance capabilities (Safety Recommendations A-07-35 through -37). Following the 2007 fatal midair collision of two news-gathering helicopters over Phoenix, Arizona, the NTSB sought to enhance the traffic-avoidance logic for helicopters' onboard equipment by recommending the development of standards and requirements for the incorporation of specific criteria for the types of maneuvers and environments unique to helicopters (Safety Recommendations A-09-4 and -5, superseded by A 10-127 and 128). We have also gone on record as supporting the importance of aircraft identification and location equipment on unmanned aircraft following the crash of a Predator B in Nogales, Arizona, in 2006 (more information about this accident, NTSB case number CHI06MA121, is available at https://ntsb.gov/_layouts/ntsb.aviation/index.aspx).

Recommendation Report

3/19/2025 4:00:00 PM

Product/Notation Id	29910 / 7862A	**Accident Date:**	09/24/04	**Issue Date:**	02/27/07
City/State:	Kalaheo, HI	**Accident #:**	LAX04FA329	**Most Wanted List:**	No

On September 24, 2004, about 1642 Hawaiian standard time, a Bell 206B helicopter, N16849, registered to and operated by Bali Hai Helicopter Tours, Inc., of Hanapepe, Hawaii, impacted mountainous terrain in Kalaheo, Hawaii, on the island of Kauai, 8.4 miles northeast of Port Allen Airport in Hanapepe. The commercial pilot and the four passengers were killed, and the helicopter was destroyed by impact forces and postimpact fire. The nonstop sightseeing air tour flight was operated under the provisions of 14 Code of Federal Regulations (CFR) Part 91 and visual flight rules (VFR) with no flight plan filed. Instrument meteorological conditions (IMC) prevailed near the accident site.

Recommendation # :		A-07-026	**Overall Status:**	Closed - Unacceptable Action	CLASS II

TO THE FEDERAL AVIATION ADMINISTRATION: Require that Hawaii air tour operators equip tour aircraft with compatible automatic dependent surveillance-broadcast (ADS-B) technology within 1 year of the installation of a functional National ADS-B Program infrastructure in Hawaii.

# of Addressees:	1			**Overall Date Closed:**	04/18/14
Addressee:	FAA		Closed - Unacceptable Action	**Date Closed:**	04/18/14

05/17/07	Addressee	Official Correspondence	14168

Letter Mail Controlled 5/31/2007 8:30:30 AM MC# 2070237: - From Marion C. Blakey, Administrator: As stated above in the response to safety recommendation A-07-25, the FAA's Surveillance and Broadcast Services program office is considering an MOA as an option rather than an equipage mandate. This approach could expedite the equipage process along with the deployment of the ground infrastructure. If we use the mandate process as the alternative method, it may require a longer time and result in operator opposition. We will continue to work with HA1 to decide if an MOA would be more mutually beneficial than the mandate. As the Hawaiian ADS-B Program infrastructure becomes available, we may begin rulemaking action to require commercial air tour operators to equip air tour aircraft with compatible ADS-B technology within 1 year of a final rule. If the agency chooses to do rulemaking, it would be subject to an economic and safety analysis.

12/04/07	NTSB	Official Correspondence	14168

The FAA indicated that is considering an alternative to the requirement recommended. In this alternative approach, the FAA will create MOAs with air tour operators in Hawaii, as discussed in its response to Safety Recommendation A-07-25. The FAA believes that the MOA approach will result in ADS-B equipment being installed and used sooner than is likely with a requirement for air tour operators to have the equipment installed. A mandate may also result in operator opposition and increase the uncertainty of the ultimate action taken.

Development of MOAs with commercial Hawaiian air tour operators is an acceptable alternative approach so long as the FAA can provide evidence that all operators have adopted the MOA. The Board is particularly concerned that air tour flights operated under visual flight rules (VFR) may not adopt the MOA, despite the fact that these operations would realize important safety benefits in Hawaii if ADS-B were available and used in these operations. Pending development and adoption of MOAs for the equipage with ADS-B equipment for all aircraft used in commercial Hawaiian air tour operations, and evidence to indicate that all affected operators (including those under VFR) have signed an MOA, Safety RecommendationA-07-26 is classified OPEN -- ACCEPTABLE ALTERNATE RESPONSE.

11/10/11	Addressee	Official Correspondence	36546

-From J. Randolph Babbitt, Administrator: The Federal Aviation Administration (FAA) conducted an Alternatives Analysis (enclosed) to determine the best solution for surveillance, weather, and communications needed to improve service for the Hawaii Tour Operators. The baseline deployment for ADS-B on all Hawaiian Islands is on schedule for 2013.
The island of Kauai was selected as the initial 'pilot' project due to historical accidents and potential for ADS-B benefits. Due to operational differences on each Hawaiian island, it was determined that it would be more realistic to approach one island at a time. To support in-flight surveillance and weather capabilities, the preferred alternative for Kauai would entail implementation of additional ADS-B infrastructure (including the flight information service - broadcast service), supplemented with six weather cameras for preflight information. However, the implementation of this alternative will only be feasible with ADS-B equipage by air tour operators.
As previously mentioned, it is our intent to create a Memorandum of Agreement (MOA) once air tour operators express interest in equipage with ADS-B. Unfortunately, we are not aware of any operator that has expressed an interest in equipping with ADS-B, or interest in participating in an MOA prior to the 2020 mandate. At this time the FAA does not have funding allocated for the additional radio stations and expansion of weather cameras and finds little to no value in doing so until air tour operators equip with ADS-B.
I will keep the Board informed of the FAA's progress on these safety recommendations and provide an updated response by May 31, 2012.

02/29/12	NTSB	Official Correspondence	36546

We note the FAA's unsuccessful efforts to create Memorandums of Agreement (MOAs) with air tour operators in Hawaii that would establish helicopter operators' voluntarily equipping their aircraft with the avionics needed to use ADS-B. Our concern remains that, without these avionics being installed on tour aircraft, operators will not benefit from the FAA's accelerated deployment of ADS-B in 2013. The FAA did not indicate another plan for addressing this safety issue. Accordingly, pending a requirement for Hawaii air tour operators to equip tour aircraft with compatible ADS-B technology within 1 year of the installation of a functional National ADS-B Program infrastructure in Hawaii, Safety Recommendation A-07-26 is classified OPEN—UNACCEPTABLE RESPONSE.

08/28/12	Addressee	Official Correspondence	16395

-From Michael P. Huerta, Acting Administrator: In 2009, the Federal Aviation Administration's (FAA) Surveillance Broadcast System Program Office facilitated a thorough safety analysis of weather and surveillance coverage over the Hawaiian Islands to determine the benefit of Automatic Dependent Surveillance Broadcast (ADS-B) for helicopter tour operators. Since each Hawaiian Island is unique, the analysis was scoped to assess Kauai as a representative island, supported by historical accident rate criteria. As part of the analysis, the team evaluated radar, Wide-Area Multilateration, and ADS-B technologies. It was determined that ADS-B was the only surveillance source that met the needs of the tour operators.

Based on the result of the analysis, the FAA plans to increase the number of ADS-B radio stations on the island of Kauai. While the current program baseline is scheduled to deploy two radio stations, the analysis indicates there would be a need for an additional three radio stations above the current program baseline. Also, the analysis concluded there would be a need to deploy six weather cameras, which would be a new service on the island.

ADS-B Implementation in Hawaii:

The FAA plans to provide an ADS-B ground infrastructure in Hawaii as part of a national implementation plan. The baseline for implementation in the Hawaiian Islands is scheduled for 2013. This will provide pilot advisory services (i.e., traffic and weather information to properly equipped aircraft). In addition, the FAA will provide air traffic separation services by April 2014. An approximate implementation schedule for the Hawaiian Islands is listed in the table below.

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Name: Lihue (Kauai) Terminal Planned Radio station installation: April 2013 Testing: January 2014 Pilot advisory services: March 2014 ATC separation services: April 2014 Number of Radio Station Proposed: 2

Name: Kahului Terminal Planned Radio station installation: April 2013 Testing: January 2014 Pilot advisory services: March 2014 ATC separation services: April 2014 Number of Radio Station Proposed: 1

Name: Honolulu Terminal Planned Radio station installation: April 2013 Testing: January 2014 Pilot advisory services: March 2014 ATC separation services: April 2014 Number of Radio Station Proposed: 2

Name: Honolulu Surface Planned Radio station installation: May 2013 Testing: January 2014 Pilot advisory services: March 2014 ATC separation services: April 2014 Number of Radio Station Proposed: 3

ADS-B Implementation Considerations:
a. The implementation of the recommendations will only be feasible if the air tour operators equip with ADS-B compatible avionics;
b. Presently, the helicopter tour operators have not shown an interest in equipping their aircraft;
c. A memorandum of agreement will be created if air tour operators express interest in equipping with ADS-B;
d. The analysis will only expand to look at other islands if strong interest in ADS-B equipage is expressed by the tour operators; and
e. This analysis will serve as additional data if any stimulus funding becomes available for incentivizing equipage.

I will keep the Board informed of the FAA's progress on these recommendations and provide an update by August 31, 2013.

11/20/12	NTSB	Official Correspondence	16395

We remain concerned that air tour operators in Hawaii have not expressed interest in voluntarily equipping their aircraft with the avionics needed to use ADS-B. Unless they install the avionics needed to use ADS-B, aircraft tour operators will not benefit from the FAA's accelerated deployment of ADS-B in 2013. Accordingly, pending the issuance of a requirement for Hawaiian air tour operators to equip their aircraft with compatible ADS-B technology within 1 year of the installation of a functional National ADS-B Program infrastructure in Hawaii, Safety Recommendation A-07-26 remains classified OPEN—UNACCEPTABLE RESPONSE.

03/18/14	Addressee	Official Correspondence	17557

-From Michael P. Huerta, Administrator: The Federal Aviation Administration (FAA) continues to make progress with the installation of ADS-B ground infrastructure in Hawaii. As stated in our previous response, helicopter tour operators are not required to equip ADS-B (Out or In) to fly in the airspace.

Hawaiian air tour operators fly in a portion of airspace that will not be affected by the Automatic Dependent Surveillance - Broadcast (ADS-B) Out Performance Requirements to Support Air Traffic Control (A TC) Services Final Rule (75 FR 30 160). The FAA sought a memorandum of agreement to ensure commitment. However, the tour operators have not shown interest in equipping with ADS-B. Therefore, this is no longer a viable alternative. Investments in expanding the ground infrastructure would not yield any safety improvements unless the tour operators have the appropriate avionics to achieve the safety benefits. The ADS-B Pilot Advisory Services will be available to a large percentage of the islands by April2014 and the FAA anticipates improved safety benefits if helicopter tour operators become properly equipped.
The current status of ADS-B ground infrastructure is as follows:

Name, Planned Radio Station Installation, Testing, Pilot Advisory Services, Estimated Number of Contributing Radio Stations Planned

Honolulu En Route SV-161, Feb 2014, Mar 2014, Apr2014, Aug 2014, 12
Hilo Terminal SV-236 Feb 2014, Mar2014, Apr 2014, Aug 2014, 3
Lihue (Kauai) Terminal SV-237 Feb2014, Mar 2014, Apr 2014, Aug 2014, 5
Kahului Terminal SV-70 Feb 2014, Mar 2014, Apr 2014, Aug 2014, 5
Honolulu Terminal SV-11 Feb 2014, Mar 2014, Apr 2014, Aug 2014, 4
Honolulu -Hickam AFB Surface SV- 192 Feb 2014, Mar 2014, Apr 2014, Aug2014, 2
Hawaii CTV -1022 Feb 2014, Mar 2014, Apr 2014, Aug2014, 12

I will keep the Board informed on the progress of these recommendations and provide an update by December 31, 2014.

04/18/14	NTSB	Official Correspondence	17557

In your initial response to us regarding this recommendation, on May 17, 2007, you proposed addressing it through memorandums of agreement (MOA) with Hawaiian air tour operators, who would voluntarily equip their aircraft to use the capabilities of an ADS-B system, thus achieving the same safety benefits. At that time, you believed that this approach would "expedite the equipage process," because you were concerned that the recommended mandate would require more time and would result in operator opposition. You also suggested that, as the Hawaiian ADS-B program infrastructure became available, you might begin rulemaking to require commercial air tour operators to equip air tour aircraft with compatible ADS-B technology within 1 year of a final rule. We replied that use of MOAs might be an acceptable alternative solution that would satisfy the recommendation.

On November 11, 2011, and again on August 28, 2012, you informed us that no Hawaiian air tour operators had expressed any interest in voluntarily equipping their aircraft as needed to use the ADS-B system, and that no MOAs had been created or were planned. In your current letter, you reiterate that no Hawaiian operators have volunteered to install or use ADS-B equipment. Rather than addressing this problem, you are reducing the ADS-B ground infrastructure because "investments in expanding the ground infrastructure would not yield any safety improvements unless the tour operators have the appropriate avionics to achieve the safety benefits."

In short, you have decided not to take the recommended action and have declined to extend to Hawaiian air tour operators the safety benefits of ADS-B. Consequently, Safety Recommendation A-07-26 is classified CLOSED—UNACCEPTABLE ACTION.

02/25/20	NTSB	NPRM Response	64746

The National Transportation Safety Board (NTSB) has reviewed the Federal Aviation Administration's (FAA) notice of proposed rulemaking (NPRM) titled, "Remote Identification of Unmanned Aircraft Systems," which was published at 84 Federal Register 72438 on December 31, 2019. We welcome the opportunity to provide comments on this NPRM, which the FAA has identified as an important step in safely integrating unmanned aircraft (or drones, as defined in the NPRM) into the national airspace system (NAS). The FAA stated that remote identification (remote ID) for unmanned aircraft systems (UAS), which includes location information for both the unmanned aircraft and the ground control station, is a necessary milestone for supporting expanded operations, such as those involving cargo delivery, flights over people, and flights beyond visual line of sight.
The NTSB has a long history (dating back to 1969) of supporting the use of technologies that provide certain identification and location information for manned aircraft, based on the ability of these technologies to improve aviation safety. Over the past few decades, we have issued numerous safety recommendations for the use of technologies to enable pilots, air traffic controllers, and other personnel (such as operators' flight-followers) to maintain awareness of aircraft location, both in the NAS and in proximity to other aircraft. Thus, in the context of aviation safety, we support the general concept of remote ID for UAS. We offer our comments on the NPRM as a general concurrence with the concept as a milestone for enabling the safe integration of a wide variety of UAS operations into the NAS by supporting enhanced aeronautical services, such as collision avoidance and air traffic management.

For example, between 2006 and 2007, we recommended requirements for equipment that could provide increased aircraft identification, location, and communication capabilities for manned aircraft operations in the Gulf of Mexico and remote areas of Hawaii and Alaska, with the intent of enhancing flight location, collision avoidance, and weather information services for these operations (Safety Recommendations A-06-21 and -22 and A-07-25 and 26). In addition, following the 2006 midair collision involving a business jet and a transport-category airplane over Brazil that claimed 154 lives, we recommended requirements for equipment that could provide pilots with enhanced alerts regarding the status of transponder and traffic collision-avoidance capabilities (Safety Recommendations A-07-35 through -37). Following the 2007 fatal midair collision of two news-gathering helicopters over Phoenix, Arizona, the NTSB sought to enhance the traffic-avoidance logic for helicopters' onboard equipment by recommending the development of standards and requirements for the incorporation of specific criteria for the types of maneuvers and environments unique to helicopters (Safety Recommendations A-09-4 and -5, superseded by A 10-127 and 128). We have also gone on record as supporting the importance of aircraft identification and location equipment on unmanned aircraft following the crash of a Predator B in Nogales, Arizona, in 2006 (more information about this accident, NTSB case number CHI06MA121, is available at https://ntsb.gov/_layouts/ntsb.aviation/index.aspx). For example, between 2006 and 2007, we recommended requirements for equipment that could provide increased aircraft identification, location, and communication capabilities for manned aircraft operations in the Gulf of Mexico and remote areas of Hawaii and Alaska, with the intent of enhancing flight location, collision avoidance, and weather information services for these operations (Safety Recommendations A-06-21 and -22 and A-07-25 and 26). In addition, following the 2006 midair collision involving a business jet and a transport-category airplane over Brazil that claimed 154 lives, we recommended requirements for equipment that could provide pilots with enhanced alerts regarding the status of transponder and traffic collision-avoidance capabilities (Safety Recommendations A-07-35 through -37). Following the 2007 fatal midair collision of two news-gathering helicopters over Phoenix, Arizona, the NTSB sought to enhance the traffic-avoidance logic for helicopters' onboard equipment by recommending the development of standards and requirements for the incorporation of specific criteria for the types of maneuvers and environments unique to helicopters (Safety Recommendations A-09-4 and -5, superseded by A 10-127 and 128). We have also gone on record as supporting the importance of aircraft identification and location equipment on unmanned aircraft following the crash of a Predator B in Nogales, Arizona, in 2006 (more information about this accident, NTSB case number CHI06MA121, is available at https://ntsb.gov/_layouts/ntsb.aviation/index.aspx).

Recommendation Report

3/19/2025 4:00:00 PM

Product/Notation Id	24859 /	**Accident Date:**	02/03/09	**Issue Date:**	09/24/09
City/State:	Washington, DC	**Accident #:**	DCA09SH001	**Most Wanted List:**	No

Calendar year 2008 was the deadliest year on record for the helicopter emergency medical services (HEMS) industry, with 12 accidents (8 fatal accidents) and 29 fatalities. As a result of this increase in fatal accidents involving HEMS operations, the National Transportation Safety Board (NTSB) placed the issue of HEMS safety on its Most Wanted List of Transportation Safety Improvements on October 28, 2008, and also conducted a 4-day public hearing to critically examine safety issues concerning this industry. Based on testimony given at this hearing, in addition to findings from recent HEMS accidents, the NTSB believes the Federal Aviation Administration (FAA) needs to take action to prevent additional accidents. These actions include improved pilot training; collection and analysis of flight, weather, and safety data; development of a low-altitude airspace infrastructure; and the use of dual pilots, autopilots, and night vision imaging systems (NVIS). Additional recommendations have been addressed to the Department of Health and Human Services' Centers for Medicare & Medicaid Services (CMS), the Department of Homeland Security's Federal Interagency Committee on Emergency Medical Services (FICEMS), and 40 public HEMS operators.

Recommendation # :		A-09-093	**Overall Status:**	Closed - Unacceptable Action	CLASS II

TO THE FEDERAL AVIATION ADMINISTRATION: Conduct a systematic evaluation and issue a report on the requirements necessary for a viable low-altitude airspace infrastructure that can accommodate safe helicopter emergency medical services (HEMS) operations. The evaluation should consider improved collection and dissemination of weather data, the role of automatic dependent surveillance-broadcast, approaches to helipad and designated landing zones, and integration into the National Airspace System. Include in the evaluation process HEMS operators, related industry associations, and hospitals, among others.

# of Addressees:	1			**Overall Date Closed:**	08/22/18
Addressee:	FAA		Closed - Unacceptable Action	**Date Closed:**	08/22/18

12/23/09	Addressee	Official Correspondence	15622

MC# 2100010 - From J. Randolph Babbitt, Administrator: The evaluation recommended covers a broad series of responsibilities and disciplines which cut across several lines of business (LOB) within the FAA. We are considering forming an FAA/ industry working group comprised of representatives from the appropriate FAA LOBS and appropriate outside entities to perform the recommended evaluation and reporting. Several individual initiatives by FAA LOBS are completed or underway on a number of the issues stated in the recommendation. The working group will leverage that work to form the baseline for continuation of the evaluation, leading to publication of the report.

10/07/10	NTSB	Official Correspondence	15622

The NTSB looks forward to reviewing the results of the FAA's evaluation and additional details about its plan for addressing these recommendations. Pending this review, Safety Recommendations A-09-93 and -94 are classified OPEN – ACCEPTABLE RESPONSE.

01/10/11	NTSB	NPRM Response	30383

Notation 8272: The National Transportation Safety Board (NTSB) has reviewed the Federal Aviation Administration's (FAA) Notice of Proposed Rulemaking (NPRM) titled "14 CFR [Code of Federal Regulations] Parts 1, 91, 120, and 135 Air Ambulance and Commercial Helicopter Operations, Part 91 Helicopter Operations, and Part 135 Aircraft Operations; Safety Initiatives and Miscellaneous Amendments; Proposed Rule," which was published at 75 Federal Register 62640 on October 12, 2010. The FAA proposes allowing HEMS operators to conduct IFR operations at airports and heliports that do not have a weather reporting facility. The proposed rule would require operators to obtain operations specifications to allow such operations under IFR. Such operations would require the operator to obtain weather reports from an approved weather reporting facility within 15 nautical miles (nm) of the airport or heliport.

The NTSB is pleased with this proposed change and agrees with the FAA that increasing IFR access to facilities, such as hospitals and other landing areas, will provide an environment suitable for increased use of IFR. The NTSB also notes that this proposed rule change, if adopted, would partially respond to Safety Recommendation A-09-93 because of the potential increase in the availability of IFR approaches for HEMS operators.

Safety Recommendation A-09-93 asks, in part, that the FAA "conduct a systematic evaluation and issue a report on the requirements necessary for a viable low-altitude airspace infrastructure that can accommodate safe helicopter emergency medical services (HEMS) operations. The evaluation should consider improved collection and dissemination of weather data… [and] approaches to helipad and designated landing zones…." The recommendation is currently classified "Open—Acceptable Response."
The FAA proposes establishing weather minimums for transitions to the VFR segment of an instrument approach. The FAA states that "pilots conducting an IFR approach would, upon reaching a point in space at a minimum descent altitude, continue the flight to the landing area under VFR if conditions permit."

The NTSB supports this proposed change and notes that the proposal requires that, if the landing area is further than 3 nm from the IFR-to-VFR transition point, higher VFR minimums would apply. If adopted, this proposed rule change would partially respond to Safety Recommendation A-09-93 in that the FAA is potentially increasing the availability of IFR approaches to HEMS operators through procedural modifications.
The FAA proposes revising the alternate airport weather minimums for helicopter IFR operations. The FAA notes that the revision will allow helicopter operators to designate an airport as an alternate if the ceiling at the alternate airport is 200 feet above the minimum required for the approach and the visibility is at least 1 statute mile. For airports without an instrument approach, the applicable VFR minimums would be required.

The NTSB is pleased with this proposed change to the regulation and supports its inclusion in the rule because it will encourage greater IFR capability among commercial helicopter and HEMS operators. The NTSB believes this proposed change, if adopted, is partially responsive to Safety Recommendations A-09-93 and -94, in that the proposed change is enhancing a portion of the airspace infrastructure for HEMS operators.
Safety Recommendation A-09-93 asks the FAA to "conduct a systematic evaluation and issue a report on the requirements necessary for a viable low-altitude airspace infrastructure that can accommodate safe helicopter emergency medical services (HEMS) operations. The evaluation should consider improved collection and dissemination of weather data, the role of automatic dependent surveillance-broadcast, approaches to helipad and designated landing zones, and integration into the National Airspace System. Include in the evaluation process HEMS operators, related industry associations, and hospitals, among others." Safety Recommendation A-09-94 asks the FAA to, "once the evaluation and report as recommended in Safety Recommendation A-09-93 are completed, initiate action to develop this infrastructure." These recommendations are currently classified "Open—Acceptable Response."

04/08/13	Addressee	Official Correspondence	16928

-From Michael P. Huerta, Administrator: The Federal Aviation Administration (FAA) is undertaking an initiative to make the HEMS weather display (commonly referred to as the "HEMS Tool") a viable safety tool through implementation of robust upgrades, as we have finished our planning phase mentioned in our December 23, 2009, letter to the Board. The HEMS Tool continues to reside on the experimental Aviation Digital Display (ADDS) Web site (www.weather.aero)and is located at: weather.aero/tools/desktopapps/hemstool. A road map will be developed to transition the HEMS Tool from experimental to operational ADDS (www.aviationweather.gov) and integrate FAA research work into a National Weather Service forecast product produced hourly. This product is called Localized Aviation Model Output Statistics Product (LAMP) and produces forecasts hourly for ceiling and visibility on a 2.5-kilometer grid across the continental United States. The LAMP Web site is located at: www.nws.noaa.gov/tdl/lamp/; an operational demonstration is located at: www.mdl.nws.noaa.gov/-glmp/glmp_cxpr.php.

We will release a report concerning the HEMS Tool validation in 2013, following the completion of the upgrades. Additionally, following the 2013 publication of the Air Ambulance and Commercial Helicopter Operations; Safety Initiatives and Miscellaneous Amendments Final Rule, we will determine if forming an FAA/industry workgroup is still needed to address HEMS infrastructure, as discussed in our previous response to Safety Recommendation A-09-93.

I will keep the Board informed of the FAA's progress on these recommendations and provide an update by March 31, 2014.

07/08/13	NTSB	Official Correspondence	16928

We support the FAA's proposed revision to the alternate airport weather minimums for helicopter instrument flight rules (IFR) operations that would allow helicopter operators to designate an airport as an alternate if the ceiling at the alternate airport is 200 feet above the minimum required for the approach and the visibility is at least 1 statute mile. As we stated in our comments regarding the FAA's notice of proposed rulemaking titled "Air Ambulance and Commercial Helicopter Operations; Safety Initiatives and Miscellaneous Amendments," this proposed change will encourage greater IFR capability among commercial helicopter and HEMS operators and, if adopted, will partially satisfy Safety Recommendations A-09-93 and -94, in that the proposed change will enhance a portion of the airspace infrastructure for HEMS operators. However, we remind the FAA that, in order to fully satisfy the intent of these safety recommendations, the FAA must also (1) conduct a systematic evaluation and issue a report on the requirements necessary for viable low-altitude airspace infrastructure that can accommodate safe HEMS operations and (2) initiate action to develop this infrastructure. Therefore, we encourage the FAA to initiate action to develop an FAA/industry workgroup as soon as possible without waiting until after the final rule is published. Pending our receipt and review of periodic updates on this effort, and the results of the FAA's evaluation, Safety Recommendations A 09 93 and -94 remain classified OPEN—ACCEPTABLE RESPONSE.

09/11/14	NTSB	Official Correspondence	37260

We are aware that, in section 135.221, the February 21, 2014, final rule allows helicopter operators to designate an airport as an alternate if (1) the ceiling at the alternate airport is 200 feet above the minimum required for the approach and (2) the visibility is at least 1 statute mile. In our comments on the NPRM, we stated that this proposed change would encourage greater IFR capability among commercial helicopter and helicopter air ambulance operators and, if adopted in the final rule, would partially satisfy Safety Recommendations A-09-93 and -94, in that the proposed change would enhance a portion of the airspace infrastructure for helicopter air ambulance operations. We stated that, in order to fully satisfy the intent of these safety recommendations, you would also need to (1) conduct a systematic evaluation and issue a report on the requirements necessary for viable low-altitude airspace infrastructure that can accommodate safe helicopter air ambulance operations and (2) initiate action to develop this infrastructure. We also encouraged you to initiate action to develop an FAA/industry workgroup as soon as possible. Pending our timely receipt and review of an update regarding progress you have made and the results of your evaluation, Safety Recommendations A-09-93 and -94 remain classified OPEN—ACCEPTABLE RESPONSE.

01/27/15	Addressee	Official Correspondence	18585

-From Michael P. Huerta, Administrator: The Federal Aviation Administration (FAA) is committed to providing tools that will improve the safety of HEMS operations. We participated in a December 2013 HEMS Weather Summit that brought together the FAA and the National Weather Service (NWS) with users and operators from the HEMS community to address relevant HEMS issues. This information helped the FAA's NextGen Aviation Weather Research Program develop and coordinate enhancements to the HEMS Tool, which include:
• Base map upgrades (including terrain, helipads, and rendering control);
• Ceiling and visibility trending;
• Addition of specific location designators;
• Storage and retrieval of user preferences; and
• A demonstration video, illustrating proper utilization of upgrades.

HEMS Tool testing, which incorporates the above enhancements, has been successful. These tests were run on the Aviation Digital Data Service (ADDS) test platform, which is hosted on the NWS' s Aviation Weather Center Web site. The FAA is currently working with the NWS to finalize this testing and transition to an upgraded version of the HEMS Tool on the operational ADDS platform during 2015. The FAA will report on the HEMS Tool validation in our next update to the Board.

I will keep the Board infom1ed of the FAA's progress on this recommendation and provide an update by January 31, 2016.

04/01/15	NTSB	Official Correspondence	18585

We are aware that, in section 135.221, the February 21, 2014, final rule allows helicopter operators to designate an airport as an alternate if (1) the ceiling at the alternate airport is 200 feet above the minimum required for the approach and (2) the visibility is at least 1 statute mile. In our comments on the NPRM, we stated that this proposed change would encourage greater IFR capability among commercial helicopter and helicopter air ambulance operators and, if adopted in the final rule, would partially satisfy Safety Recommendations A-09-93 and -94, in that the proposed change would enhance a portion of the airspace infrastructure for helicopter air ambulance operations. We further stated that, in order to fully satisfy the intent of these safety recommendations, you would also need to (1) conduct a systematic evaluation and issue a report on the requirements necessary for viable low-altitude airspace infrastructure that can accommodate safe helicopter air ambulance operations and (2) initiate action to develop this infrastructure. We encouraged you not to wait until after the HEMS final rule was published to initiate an FAA/industry workgroup, but to do so as soon as possible.

We do not believe that the information provided in your letter is responsive or is relevant to either of these recommendations. We are concerned that, although this recommendation is more than 5 years old, no workgroup has yet been initiated, and we are aware of no plans to initiate one. Accordingly, pending our timely receipt and review of an update that addresses our concerns, Safety Recommendations A-09-93 and -94 are classified OPEN—UNACCEPTABLE RESPONSE.

05/31/18	Addressee	Official Correspondence	58244

-From Daniel K. Elwell, Acting Administrator: The Federal Aviation Administration (FAA) alternatively addressed the recommendation to study or implement a systematic evaluation of the requirements necessary for a viable low-altitude airspace infrastructure that can accommodate HEMS. We established a corrective action plan (CAP) development team to review procedures of helicopter operations in close proximity to airport safety events, as well as selected Helicopter Operations in Close Proximity for inclusion in the FAA's 2016 Air Traffic Organization Top 5. The Top 5 is a list of quantifiable safety issues the FAA identifies as a high priority for mitigation. enabling the FAA to focus on the most pressing areas of risk. As part of selecting the Helicopter Operations in Close Proximity safety issue for the Top 5. the FAA utilized frequency data from traffic collision avoidance system resolution advisory events, as well as near-mid-air collision reports demonstrating the severity to which such events can escalate.

The CAP development team included FAA and industry personnel, such as Helicopter Association International Aircraft Owners and Pilots Association. and Air Line Pilots Association. and collaboratively developed and executed a mitigation plan. This plan directed 16 air traffic facilities with the highest number of Traffic Collision Avoidance System Resolution Advisories (TCAS RAs) to review. and revise as necessary. helicopter operating procedures in close proximity to the airport. This effort was complete by September 20, 2016.

Additionally, in June 2016 the FAA developed a recurrent training course on helicopter operations addressing proximity to airport safety events that is now mandatory for all facilities in the National Airspace System.

Our subsequent review of the number of TC AS RAs detem1ined a 75 percent decrease since full implementation of the activities directed by the CAP. Although the FAA will monitor the number of TCAS RAs going forward to identify and address any further safety issues. this effort will be performed through our Safety Management System policies. All corrective actions related to the safety issues identified by the subject recommendations are closed.

I believe that the FAA has effectively addressed these safety recommendations, and consider our actions complete.

08/22/18 NTSB Official Correspondence 58244

We previously told you that the February 21, 2014, final rule, titled "Helicopter Air Ambulance, Commercial Helicopter, and Part 91 Helicopter Operations," partially satisfies Safety Recommendations A-09-93 and -94. The final rule amended section 135.221 to allow helicopter operators to designate an airport as an alternate if the ceiling at the alternate airport is 200 feet above the minimum required for the approach and the visibility is at least 1 statute mile. Further, the section was amended to encourage greater instrument flight rules capability among commercial helicopter and helicopter air ambulance operators and to enhance a portion of the airspace infrastructure for helicopter air ambulance operations. We further stated that, to fully satisfy the intent of these recommendations, you would also need to systematically evaluate and report on the requirements necessary for viable low-altitude airspace infrastructure that can accommodate safe helicopter air ambulance operations. Additionally, you would need to initiate action to develop this infrastructure.

We note that you formed a corrective action plan (CAP) development team, which used frequency data from traffic collision avoidance system resolution advisory (TCAS RA) events and near-midair collision reports to assess the operating procedures of helicopters when they are in close proximity to airport safety events. You indicated that, because of this review, the CAP directed 16 air traffic facilities with the highest number of TCAS RAs to review, and revise as necessary, their operating procedures for helicopters when they are close to the airport. We also note that you have required that staff at all facilities in the NAS take a recurrent helicopter operations training course that addresses proximity to airport safety events.

Our recommendation asks you to consider, as part of your evaluation, improved collection and dissemination of weather data, the role of ADS-B, approaches to helipad and designated landing zones, and integration into the NAS. We also asked you to issue a report that outlines the requirements necessary for a low-altitude airspace infrastructure to safely accommodate helicopter air ambulance operations. Although we believe the CAP development team's evaluation and the actions that resulted are consistent with the intent of these recommendations, we are disappointed that you did not evaluate all of the items that we recommended. However, because you indicated that your actions are complete, Safety Recommendations A-09-93 and -94 are classified CLOSED--UNACCEPTABLE ACTION.

Recommendation Report

3/19/2025 4:00:00 PM

Product/Notation Id	41358 /	**Accident Date:**	04/26/07	**Issue Date:**	01/29/10
City/State:	Dawsonville, GA	**Accident #:**	ATL07FA081	**Most Wanted List:**	No

This letter describes the need for improvements in Federal Aviation Administration (FAA) support of search and rescue (SAR) response to aircraft accidents. The Air Force Rescue Coordination Center (AFRCC) has responsibility for initiation and coordination of SAR activities in the domestic United States. In several recent accidents, information readily available to FAA staff was either not well communicated or not made available to the AFRCC in a timely manner. The information could have significantly expedited the location of downed aircraft and recovery of survivors. The National Transportation Safety Board (NTSB) believes that improvements in information access and delivery could reduce search time and speed the rescue of survivors.
When the AFRCC receives information that a new accident or incident requiring SAR response has occurred, AFRCC personnel assign it an incident number and begin to obtain all available information about the flight. Each significant event or contact during the search is recorded in a chronological mission log. The AFRCC coordinates the activities of the searchers and serves as a clearinghouse for information. It continues to track the mission until the aircraft is located or the search is suspended pending additional information.

Recommendation # :	A-10-009	**Overall Status:**	Closed - Acceptable Action	CLASS II
TO THE FEDERAL AVIATION ADMINISTRATION: Establish procedures for identifying aircraft equipped with automatic dependent surveillance broadcast (ADS-B) capabilities to personnel responsible for search and rescue (SAR) and to the technical assistance group created pursuant to Safety Recommendation A-10-6 for providing expeditious access to ADS-B location data when needed to support SAR activities.				
# of Addressees:	1		**Overall Date Closed:**	02/27/17
Addressee:	FAA	Closed - Acceptable Action	**Date Closed:**	02/27/17
In Progress	NTSB	Official Correspondence	19987	
04/26/10	Addressee	Official Correspondence	36383	
Letter Mail Controlled 5/5/2010 12:10:48 PM MC# 2100165 - From J. Randolph Babbitt, Administrator: We are evaluating this recommendation to determine the best approach to take to address the Board's intent. We will provide an update on this effort within 120 days.				
08/31/10	NTSB	Official Correspondence	36383	
The NTSB eagerly awaits information from the FAA concerning how it will address the incorporation of ADS-B technology to provide access when needed to support SAR efforts. Pending completion of the recommended action, Safety Recommendation A-10-9 is classified OPEN – ACCEPTABLE RESPONSE.				
05/23/11	Addressee	Official Correspondence	36516	
CC# 201100249: - From J. Randolph Babbitt, Administrator: Discussions between ADS-B Program Offices and the Air Traffic Organization Safety Search and Rescue Team have commenced. Requirements for 24/7 attainment of ADS-B data and the procedures to rapidly identify ADS-B equipped aircraft for search and rescue activity are being developed. We expect to complete the initial Search and Rescue ADS-B requirements docun1ent by December 2011. I believe the FAA has effectively addressed recommendations A-IO-3, -5, and -7, and I consider our actions complete. I will keep the board informed of the FAA's progress on the remaining safety recommendations and provide an update by February 2012.				
10/19/11	NTSB	Official Correspondence	36516	

The NTSB recently learned that the FAA has revised its plans in response to these safety recommendations. We have contacted FAA staff and requested a briefing on the FAA's updated efforts so that we may appropriately classify Safety Recommendations A-10-1 through -3 and -5 through -9. In the interim, the recommendations remain classified OPEN—AWAIT RESPONSE.			
02/11/13	Addressee	Official Correspondence	16616
-From Michael P. Huerta, Administrator: We are developing a standalone equipment suffix to identify aircraft equipped with ADS-B transponders. This designation will be readily available in the aircraft registry database for use by A TO Safety and Technical Training investigators and first responders. I will keep the Board informed of the FAA's progress on this safety recommendation and provide an update by October 2013.			
05/13/13	NTSB	Official Correspondence	16616
The FAA's development of a standalone equipment suffix to identify aircraft equipped with ADS-B transponders that will be readily available in the aircraft registry database will satisfy this recommendation, once it is fully implemented. In the meantime, Safety Recommendation A-10-9 is classified OPEN—ACCEPTABLE RESPONSE.			
02/20/14	Addressee	Official Correspondence	37122
-From Michael P. Huerta, Administrator: In conjunction with the FAA response to recommendation A-10-8, the Air Traffic Organization's Safety Tools Development Team has identified the Automatic Dependent Surveillance-Broadcast (ADS-B) data sources and will begin incorporating that data into the new SAR analysis tool pending successful implementation. We anticipate incorporating the ADS-B data in early calendar year 2014. I will keep the Board informed of the FAA's progress on this safety recommendation and provide an update by July 2014.			
07/23/15	NTSB	Official Correspondence	37122
We note that you have identified the ADS-B data sources and will begin incorporating that data into the new SAR analysis tool being developed to satisfy Safety Recommendation A 10 8. Pending completion of this work, Safety Recommendation A 10 9 remains classified OPEN—ACCEPTABLE RESPONSE.			
09/08/16	Addressee	Official Correspondence	19987
-From Michael P. Huerta, Administrator: As discussed in the above response to recommendation A-1 0-08, the FAA has incorporated ADS-B data into the en-route and terminal automation systems. For ADS-8 equipped aircraft, radar data has the first display priority for controllers; however, the ADS-8 data will be displayed when radar data is not available. Radar and/or ADS-B data from en-route and terminal automation systems is available to the Falcon 3 radar replay tool through the National Offload Program and can be used by facilities and safety investigators to support SAR activities. This procedure supplants our previous efforts to develop a standalone equipment suffix to identify ADS-8 equipped aircraft in the aircraft registry database, which we determined to be redundant due to a currently existing method of identifying ADS-8 equipped aircraft via the aircraft's flight plan. I believe that the FAA has effectively addressed these safety recommendations and consider our actions complete.			
02/27/17	NTSB	Official Correspondence	19987
We note that operational personnel at all ATC facilities have access to and have received training on the Falcon 3's new search capability, which is accessible from within the Comprehensive Electronic Data Analysis and Reporting program. We also note that you added 10 minutes to the Falcon 3's search playback and incorporated automatic dependent surveillance broadcast (ADS-B) data sources for the en-route and terminal automation systems. In addition, we note that you will continue to assess potential data sources for the Falcon 3 radar replay tool on an ongoing basis. We believe that your actions satisfy the intent of Safety Recommendation A-10-8, which is classified CLOSED--ACCEPTABLE ACTION.			

Recommendation Report

3/19/2025 4:00:00 PM

Product/Notation Id	56539 /	**Accident Date:**	06/25/15	**Issue Date:**	05/09/17
City/State:	Ketchikan, AK	**Accident #:**	ANC15MA041	**Most Wanted List:**	No

On June 25, 2015, about 1215 Alaska daylight time, a single-engine, turbine-powered, float-equipped de Havilland DHC-3 (Otter) airplane, N270PA, collided with mountainous, tree-covered terrain about 24 miles east-northeast of Ketchikan, Alaska. The commercial pilot and eight passengers sustained fatal injuries, and the airplane was destroyed. The airplane was owned by Pantechnicon Aviation, of Minden, Nevada, and operated by Promech Air, Inc., of Ketchikan. The flight was conducted under the provisions of 14 Code of Federal Regulations (CFR) Part 135 as an on-demand sightseeing flight; a company visual flight rules flight plan (by which the company performed its own flight-following) was in effect. Marginal visual flight rules conditions were reported in the area at the time of the accident. The flight departed about 1207 from Rudyerd Bay about 44 miles east-northeast of Ketchikan and was en route to the operator's base at the Ketchikan Harbor Seaplane Base, Ketchikan.

Recommendation # :		A-17-042	**Overall Status:**	Closed - Unacceptable Action	CLASS II

TO THE FEDERAL AVIATION ADMINISTRATION: Analyze automatic dependent surveillance-broadcast data from Ketchikan air tour operations on an ongoing basis and meet annually with Ketchikan air tour operators to engage in a nonpunitive discussion of any operational hazards reflected in the data and collaborate on mitigation strategies for any hazards identified.

# of Addressees:	1			**Overall Date Closed:**	04/19/23
Addressee:	FAA		Closed - Unacceptable Action	**Date Closed:**	04/19/23
05/09/17	NTSB	Transmittal Letter		56747	

On April 25, 2017, the National Transportation Safety Board (NTSB) adopted its report concerning the June 25, 2015, accident in which a single-engine, turbine-powered, float-equipped de Havilland DHC-3 (Otter) airplane, N270PA, collided with mountainous, tree-covered terrain about 24 miles east-northeast of Ketchikan, Alaska.1 Additional information about this accident and the resulting recommendations may be found in the report of the investigation, which can be accessed at our website, http://www.ntsb.gov, under report number NTSB/AAR-17/02.
As a result of this investigation, we issued 10 new recommendations, including 1 to the Cruise Lines International Association and the following 9 recommendations to the Federal Aviation Administration.

07/21/17	Addressee	Official Correspondence	57044

-From Michael P. Huerta, Administrator: The FAA is addressing these recommendations through bi-annual Air Tour Safety Meetings held in both Juneau and Ketchikan, Alaska. These bi-annual meetings are held before the spring and after the fall air tour seasons and involve FAA, industry stakeholders, leading aviation safety groups, and the Board on occasion. The intent of these meetings is to address safety concerns specific to the air tour industry in Southeast Alaska and to conduct regular presentations around topics such as: airspace changes, automatic dependent surveillance-broadcast (ADS-B), CAPSTONE equipment, mid-air avoidance via Letters of Agreement (LOA), safety cultures, and the CFJT Awareness Initiative. At the 2016 post-season and 2017 pre-season air tour safety meetings the use of updated terrain databases and current software was discussed as requested by this recommendation.

As for concerns over legacy Chelton Avionics Systems, the FAA found that operators are using the most current electronic flight instrument system software available. We encourage carriers to continue using updated terrain databases as they become available and will continue to provide operator oversight to ensure systems software use is in accordance with each operator's approved manuals and training programs. We will address this topic again during the 2017 post-season air tour safety meeting.

The FAA believes that by ensuring ADS-B data-driven discussions are a focus of future bi-annual safety meetings, additional safety insights will be developed. In evaluating this recommendation we determined there are several po11ions of Ketchikan air tour flight paths where ADS-B data is not available. However. discussions with industry stakeholders indicate that their use of "Spider Tracks" technology, a commercially available GPS tracking tool, allows the air carriers to have full coverage of the entire flight path. Although this coverage is available to the air carriers only, this information has been openly shared with Certificate Management Team (CMT) members and is routinely incorporated into the bi-annual air tour safety meetings. The FAA has also achieved successful results in this area through user/operator LO As, where air carriers operating in a given area voluntarily sign agreements establishing clear procedures, methods, and areas by which they will abide. This voluntary action further enhances aviation safety during the air tour season through the avoidance of both mid-air and CFiT accidents. We will ensure that a specific presentation during both the 2017 post-season and 2018 pre-season air tour safety meetings is focused on any operational hazards reflected in track data. Additionally, the CMTs will work collaboratively with industry to approve operator developed mitigation strategies for any hazards identified.

I believe the FAA has effectively addressed these safety recommendations and consider our actions complete.

10/26/17	NTSB	Official Correspondence	57044

You wrote that you have identified several portions of Ketchikan air tour flight paths where ADS-B data is not available. You also indicated that, although commercial GPS tracking tools are available, full flight path coverage is only available to air carriers. We note, however, that air carriers have been sharing their track data with certificate management team (CMT) members, and that this information has also been routinely incorporated into your bi-annual air tour safety meetings. We also note that you plan to include a specific presentation on the operational hazards that you have identified in track data during upcoming air tour safety meetings, and that CMTs intend to work collaboratively with industry to approve operator-developed mitigation strategies for any hazards identified.

We are encouraged by your actions thus far to collect and analyze track data and your plan to work collaboratively with industry to approve operator-developed hazard mitigation strategies. Pending the completion of these collaborative efforts and our review of any mitigation strategies that may result, Safety Recommendation A-17-42 is classified OPEN--ACCEPTABLE RESPONSE.

02/18/20	Addressee	Official Correspondence	64963

-From Steve Dickson, Administrator: While ADS-B is discussed with the Ketchikan Air Tour Industry, the FAA does not use ADS-B data to educate the participants. However, operators are reviewing this data to help better plan the routes they use and make turn back decisions. The FAA's Juneau Flight Standards District Office conducts two formal meetings a year with the Ketchikan Air Tour operators. These bi-annual meetings are held before the spring air tour season begins and after the fall air tour season ends. These meetings involve the FAA, industry stakeholders, leading aviation safety groups, and, when applicable, staff from the National Transportation Safety Board. The intent of these meetings is to address safety concerns specific to the air tour industry in Southeast Alaska and to regularly conduct presentations on topics that include: airspace changes, automatic dependent surveillance-broadcast, capstone equipment. mid-air avoidance via Letters of Agreement, safety cultures, and lessons learned. The FAA concluded that through these nonpunitive discussions, open for all operators to express ideas amongst themselves as well as the FAA, additional safety insight and best practices will be developed and shared with the entire aviation community.

I believe that the FAA has effectively addressed these safety recommendations and consider our actions complete.

07/22/20	NTSB	Official Correspondence	64963

You reported that the FAA's Juneau Flight Standards District Office meets with Ketchikan Air Tour operators twice a year to discuss a variety of safety concerns specific to the air tour industry in southeast Alaska. You also reported that ADS-B is one of the topics discussed at these meetings and that operators review ADS-B data to help better plan their routes.

Although NTSB staff have attended these meetings, they do not recall any discussion about ADS-B data. In addition, you previously told us that you planned to identify operational hazards using track data provided by air carriers, and that certificate management team members would then work with industry to approve operator-developed mitigation strategies for any hazards identified. At the time, we considered your plan to be responsive; however, we have not received any information on the outcome of these efforts.

Although you indicated that you are finished responding to this recommendation, we would appreciate receiving additional information about your efforts to analyze ADS-B data. Specifically, we would like to know what operational hazards have been identified and the mitigation strategies that resulted. In the meantime, pending our receipt of this information and completion of the recommended action, Safety Recommendation A-17-42 is classified OPEN--UNACCEPTABLE RESPONSE.

03/24/22	Addressee	Official Correspondence	68401

-From Steve Dickson, Administrator: As described at our April 7, 2021, meeting with the National Transportation Safety Board staff, commercial air tour operations in Alaska have decreased significantly, and a large number of operators have suspended flight operations indefinitely, primarily due to the COVID-19 Pandemic, which forced cruise ships to discontinue operations to destinations in Alaska. There is very little air tour operator data available for 2020 and 2021, resulting in a limited ability to collect Automatic Dependent Surveillance-Broadcast (ADS-B) data during this specific period for aircraft flying in the Ketchikan, Alaska area. Additionally, in order for the Federal Aviation Administration (FAA) to obtain accurate data, a request for specific data from each operator would need to be made, then generated dependent on availability. Operators providing data would be burdened by an FAA request, as ADS-B data is normally requested on a case-by-case basis associated with an accident and not a larger concerted effort of all operations, which is not easily accomplished. For these reasons, the FAA will not request this data from operators.

However, the FAA's Flight Standards District Office (FSDO) in Juneau, Alaska, continues to hold bi-annual air tour safety meetings with Alaska air tour operators, industry stakeholders, and leading aviation safety groups. The intent of these meetings is to address safety concerns specific to the air tour industry in Southeast Alaska, and to provide regular presentations around topics; such as airspace changes, ADS-B, Capstone equipment, mid-air collision avoidance via Letters of Agreement (LOA), safety cultures, and Controlled Flight Into Terrain (CFIT) awareness initiatives. These meetings are conducted in a nonpunitive manner.

The FAA has achieved positive results with voluntarily signed LOAs that establish clear limitations to procedures, methods, and areas by which they will abide. This voluntary action further improves aviation safety during the air tour season by avoiding both mid-air and CFIT accidents. We also encourage carriers to continue using updated terrain databases as they become available. We will continue to provide operator oversight to ensure systems software use is in accordance with each operator's approved manuals and training programs.

We believe that our actions stated above and in our previous letter to the Board meet the intent of Safety Recommendation A-17-42. In addition to this recommendation, we would like to inform the Board of further actions that the FAA is taking specific to safety management systems (SMS), which we believe will have an overall improvement to aviation safety in Alaska, and primarily address Safety Recommendations A-16-36, A-19-28, A-21-13, and A-21-14.

We initiated a rulemaking project in the fall of 2020 titled SMS for Parts 21, 91.147, 135, and 145. The rulemaking project is considering a notice of proposed rulemaking (NPRM) to apply the existing regulatory requirements of 14 CFR Part 5, SMS, into new areas of industry. The NPRM may include all persons engaged in the design and production of aircraft, engines, or propellers; certificate holders that conduct common carriage operations under part 135; persons engaged in maintaining part 121 aircraft under part 145; and persons conducting specific types of air tour operations under part 91.147. The updated NPRM is anticipated to be published by September 30, 2022.

Commercial air tour operators are encouraged to use voluntary SMS to ensure safety. Operators impacted by the SMS rulemaking may be required to implement SMS. Two operators in the Juneau, Alaska FSDO area have voluntarily developed SMS, and more operators have expressed interest in taking advantage of these voluntary safety measures.

04/19/23	NTSB	Official Correspondence	69051

We note that you do not intend to collect ADS-B data from Ketchikan-area air tour operators. You reported that reduced air tour activity in the Ketchikan area during 2020 and 2021 due to the COVID-19 pandemic limited your ability to collect this data. You also said it would be burdensome for operators to provide this information. You believe this recommendation is satisfied by the following:

- The FAA's biannual air tour safety meetings with air tour operators in Alaska
- The voluntary agreements those air tour operators have signed
- The FAA rulemaking project that proposes updating and expanding the requirements for safety management systems (SMSs) and requiring certain certificate holders and commercial air tour operators to develop and implement an SMS

We believe the FAA can collect and review ADS-B data broadcast by aircraft in the Ketchikan area without operators submitting it; we point out that we were able to obtain and review such data from L3 Harris, the prime contractor for the FAA's ADS-B program, during the Promech investigation. The SMS rulemaking may result in individual air tour operators incorporating regular reviews of their ADS-B data as part of their SMS; however, the intent of this recommendation is to provide an opportunity for the FAA and Ketchikan-area air tour operators to openly discuss any safety issues identified in the collected ADS-B data and increase awareness among all operators of the operational hazards in that area. We do not believe your actions are responsive and, because you have not reported any plans to take the recommended action, Safety Recommendation A-17-42 is classified CLOSED-- UNACCEPTABLE ACTION.

Recommendation Report

3/19/2025 4:00:00 PM

Product/Notation Id	66857 /	**Accident Date:**	05/13/19	**Issue Date:**	05/13/21
City/State:	Ketchikan, AK	**Accident #:**	CEN19MA141AB	**Most Wanted List:**	No

On May 13, 2019, about 1221 Alaska daylight time, a float-equipped de Havilland DHC-2 (Beaver) airplane, N952DB, and a float-equipped de Havilland DHC-3 (Otter) airplane, N959PA, collided in midair about 8 miles northeast of Ketchikan, Alaska. The DHC-2 pilot and four passengers sustained fatal injuries. The DHC-3 pilot sustained minor injuries, nine passengers sustained serious injuries, and one passenger sustained fatal injuries. The DHC-2 was destroyed and the DHC-3 sustained substantial damage. The DHC-2 was registered to and operated by Mountain Air Service LLC, Ketchikan, Alaska, under the provisions of Title 14 Code of Federal Regulations (CFR) Part 135 as an on-demand sightseeing flight. The DHC-3 was registered to Pantechnicon Aviation LTD, Minden, Nevada, and operated by Venture Travel, LLC, dba Taquan Air, Ketchikan, Alaska, under the provisions of Part 135 as an on-demand sightseeing flight. Visual meteorological conditions prevailed in the area at the time of the accident.
According to information provided by the operators, both airplanes had been conducting sightseeing flights and were both converging on a scenic waterfall before returning to the Ketchikan Harbor Seaplane Base (5KE), Ketchikan, Alaska, when the accident occurred. Automatic dependent surveillance-broadcast (ADS-B) tracking data for both airplanes revealed that, at 1217:15, the DHC-3 was about level at 4,000 ft mean sea level (msl) on a track of 225°, and the DHC-2 was 4.2 nautical miles (nm) south of the DHC-3, climbing through 2,800 ft msl, on a track of 255°.1 About 1219, the DHC-3 started a descent from 4,000 ft, and the DHC-2 was at 3,175 ft and climbing. During the next 1 minute 21 seconds, the DHC-3 continued to descend on a track between 224° and 237°, and the DHC-2 leveled out at 3,350 ft on a track of about 255°. The airplanes collided at 1221:14 at an altitude of 3,350 ft, 7.4 nm northeast of 5KE.

Recommendation # :		A-21-015	**Overall Status:**	Open - Unacceptable Response	CLASS II

TO THE FEDERAL AVIATION ADMINISTRATION: Identify high-traffic air tour areas and require, through a special federal aviation regulation or other means, that Title 14 Code of Federal Regulations Parts 91 and 135 air tour operators that operate within those areas be equipped with an Automatic Dependent Surveillance-Broadcast Out- and In-supported traffic advisory system that 1) includes both visual and aural alerts, 2) is driven by an algorithm designed to minimize nuisance alerts, and 3) is operational during all flight operations.

# of Addressees:	1			**Overall Date Closed:**	N/A
Addressee:	FAA		Open - Unacceptable Response	**Date Closed:**	N/A
05/13/21	NTSB	Transmittal Letter		67505	

The attached letter from the NTSB Chairman provides information about the NTSB's April 20, 2021, report Midair Collision over George Inlet, de Havilland DHC-2, N952DB, and de Havilland DHC-3, N959PA, Ketchikan, Alaska, May 13, 2019, NTSB/AAR-21-04. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at http://www.ntsb.gov.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (for example, A-21-15 thru -20 and A-16-36). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply exceeds 20 megabytes, including attachments, please e mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

This letter provides information about the National Transportation Safety Board's (NTSB) April 20, 2021, report Midair Collision over George Inlet, de Havilland DHC-2, N952DB, and de Havilland DHC-3, N959PA, Ketchikan, Alaska, May 13, 2019, AAR-21-04. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at http://www.ntsb.gov.

As a result of this investigation, we identified the following safety issues:

• The inherent limitations of the see-and-avoid collision avoidance concept.
• The benefit of Automatic Dependent Surveillance-Broadcast (ADS-B) Out- and In supported traffic advisory systems in high-traffic tour areas.
• The lack of an ADS-B In requirement for Title 14 Code of Federal Regulations Part 135 operations.
• The lack of cockpit display of traffic information alerting on both aircraft.
• The loss of alerting capabilities with ADS-B systems installed as part of the Federal Aviation Administration's (FAA) post-Capstone upgrade program.
• An inadequate checklist used in Taquan Air's operation.
• Lack of a requirement for safety management systems in Part 135 operations.

Accordingly, the NTSB makes the following safety recommendations to the FAA. Additional information regarding these recommendations can be found in the noted sections of the report.

• Identify high-traffic air tour areas and require, through a special federal aviation regulation or other means, that Title 14 Code of Federal Regulations Parts 91 and 135 air tour operators that operate within those areas be equipped with an Automatic Dependent Surveillance-Broadcast Out- and In-supported traffic advisory system that 1) includes both visual and aural alerts, 2) is driven by an algorithm designed to minimize nuisance alerts, and 3) is operational during all flight operations. (A-21-15) (See section 2.4)

• In the high-traffic air tour areas identified in Safety Recommendation A-21-015, require that all non–air tour aircraft operating within the airspace be equipped with Automatic Dependent Surveillance-Broadcast Out. (A-21-16) (See section 2.4)

• Require the installation of Automatic Dependent Surveillance-Broadcast Out- and In supported airborne traffic advisory systems that include aural and visual alerting functions in all aircraft conducting operations under Title 14 Code of Federal Regulations Part 135. (A-21-17) (See section 2.5)

• Review current and future supplemental type certificate installation instructions and flight manual supplements to ensure they provide provisions to prevent the inadvertent disabling of the broadcast of pressure altitude data, by design, where practicable. (A-21-18) (See section 2.6.2)

• Ensure that checklists for all Capstone Program (phase 2) aircraft include verification that the Garmin GSL 71 control head selector knob is in the ON position and that the unit is in ALT mode before takeoff. (A-21-19) (See section 2.7)

• Update the Aeronautical Information Manual and the Pilot's Handbook of Aeronautical Knowledge to include the limitations inherent in visual scans for traffic and the benefits and best practices of using cockpit displays of traffic information to supplement visual scans to help overcome these limitations. (A-21-20) (See section 2.8)

In addition, the NTSB reiterates the following recommendations to the FAA:

• Require all 14 Code of Federal Regulations Part 135 operators to establish safety management system programs. (A-16-36) (See section 2.9)

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (Safety Recommendations, A-21-15 through -20). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e mail us at the same address for instructions. Please do not submit both an electronic copy and a hard copy of the same response.

07/21/21	Addressee	Official Correspondence	67530

-From Steve Dickson, Administrator: The Federal Aviation Administration's (FAA) Air Traffic Organization and Aviation Safety Organization met to discuss these recommendations, and determined that prior to the FAA committing to the requested set of actions, a meeting with NTSB staff is needed to further clarify the intent of the recommendations. The FAA is currently in the process of setting up this meeting.

02/04/22	NTSB	Official Correspondence	67530

You reported that, before committing to taking the actions described in these recommendations, your staff wanted to meet to discuss the intent of these recommendations. When we reached out to schedule a meeting, your staff informed us that a meeting was no longer necessary. Because you have not committed to taking the recommended actions and you have not informed us of the specific activities that you are taking to review these recommendations, we do not have enough information to determine if your actions are responsive. Therefore, pending our receipt of this additional information and completion of the recommended actions, Safety Recommendations A-21-15 and -16 remain classified OPEN-- AWAIT RESPONSE.

05/26/22	NTSB	Reiteration	68722

From Aviation Investigation Report AIR-22-05 "Collision into Terrain Safari Aviation Inc. Airbus AS350 B2, N985SA Kekaha, Hawaii, December 26, 2019" published on May 26, 2022: 2.4.2.2 Improved ADS-B-Supported Service Capabilities

At the time of the accident, Safari did not have ADS-B equipment on any of its helicopters but has since installed ADS-B Out and In equipment on its fleet, primarily to enable real-time tracking of its tour flights. However, due to signal obstruction by the high terrain in the center of Kauai, Safari and other operators with ADS-B Out-equipped fleets still cannot continuously track the location of their low-flying tours. For example, ADS-B coverage remains unavailable for low-flying aircraft west and north of Waimea Canyon.

Although different types of flight-tracking equipment exist, the NTSB has long recommended the use of ADS-B Out technology because of the variety of safety benefits it can provide and its compatibility with other technologies used elsewhere in the National Airspace System. For example, the aircraft position (and velocity) data broadcast by ADS-B Out-equipped aircraft are used by ATC facilities in providing traffic separation services. In addition, ADS-B In-equipped aircraft receive that data and, depending on the type of avionics installed, process it to provide pilots with traffic position information, traffic advisories, and other safety services (such as weather and aeronautical information advisories) without any subscription or usage fees.

In 2007, as a result of our investigation of another fatal air tour helicopter accident on Kauai, we recommended that the FAA accelerate the implementation of ADS-B infrastructure in Hawaii to include high-quality ADS-B services to low-flying aircraft on tour routes and require Hawaii air tour operators to equip their aircraft with compatible ADS-B technology within 1 year of the installation of a functional infrastructure (NTSB 2007).

On March 18, 2014, the FAA provided us with information on its progress and acknowledged that "investments in expanding the ground infrastructure would not yield any safety improvements unless the tour operators have the appropriate avionics" (FAA 2014). On October 14, 2015, the FAA informed us that it had completed installation of ADS-B infrastructure in some areas of Hawaii and was continuing to integrate ADS-B services. The FAA noted that ADS-B pilot advisory services (which provide increased situation awareness and safety benefits to ADS-B In-equipped aircraft within a covered airspace) had been available since September 2014 within a large percentage of Hawaii's surrounding airspace and that initial operating capability for ATC separation services had begun on August 18, 2015.

However, the NTSB notes that the covered airspace for ADS-B services in Hawaii benefits primarily aircraft flying at higher altitudes rather than the typical air tour. Further, the FAA informed us that it had decided not to require Hawaii air tour operators to install any ADS-B equipment on their aircraft.54 FAA said that it had sought a memorandum of agreement with the operators to achieve their voluntary commitment to the installations but that the operators "have not shown interest in equipping with ADS-B" (FAA 2014).
In our April 14, 2014, response to the FAA, we expressed concern that the FAA, rather than taking the recommended measures to extend the safety benefits of ADS-B-supported services to Hawaii air tour operators, instead decided to reduce the ADS-B ground infrastructure.
During our investigation of a 2019 fatal midair collision involving two air tour airplanes in Ketchikan, Alaska, we observed that high-traffic air tour areas have a higher midair collision risk than the general National Airspace System and that the safety of air tour flights in such areas could be enhanced through the use of an ADS-B Out- and In-supported traffic advisory system (NTSB 2021b). As a result, on May 13, 2021, we recommended that the FAA do the following:
Identify high-traffic air tour areas and require, through a special federal aviation regulation or other means, that Title 14 Code of Federal Regulations Parts 91 and 135 air tour operators that operate within those areas be equipped with an Automatic Dependent Surveillance-Broadcast Out- and In-supported traffic advisory system that 1) includes both visual and aural alerts, 2) is driven by an algorithm designed to minimize nuisance alerts, and 3) is operational during all flight operations. (A-21-15)

We note that the circumstances of this accident highlight the potential risk for midair collisions in air tour areas on Kauai, particularly

as the adverse weather conditions affected part of the tour route, resulting in a disruption in the standard flow of tour traffic. For example, the Company 3 pilot (who was flying a tour in an airplane) diverted his tour to the east side of the island after hearing radio reports from other tour pilots describing adverse weather on the Napali Coast. The Company 3 pilot initially reversed course and followed the standard route in the opposite (counterclockwise) direction but soon became uncomfortable because the volume of traffic that was diverting from the Napali Coast was converging in the area where he was flying. He decided to end his tour and return to LIH.

We continue to believe that ADS-B-supported services, including flight tracking for operators and traffic advisories for pilots, are critical for the safety of low-flying air tour operations in Hawaii. However, as described previously, without ADS-B infrastructure that can adequately enable ADS-B-supported services, operators of appropriately equipped aircraft will not receive the full safety benefits such services can provide.

Thus, the NTSB concludes that the ADS-B infrastructure in Hawaii is insufficient to adequately enable ADS-B Out- and In-supported services, such as real-time flight position tracking and onboard traffic advisories, that are essential for the safety of low-flying air tour aircraft throughout their entire tour routes. Therefore, the NTSB recommends that the FAA implement ADS-B infrastructure improvements in Hawaii, such as additional ADS-B ground stations, that provide adequate coverage to enable real-time flight tracking and traffic advisory services for ADS-B Out- and In-equipped, low-flying air tour aircraft throughout their entire tour routes.

In addition, because of the safety benefits that an ADS-B Out- and In-supported traffic advisory system optimized for use in high-traffic air tour areas can provide for operations in Hawaii, the NTSB reiterates Safety Recommendation A-21-15.

Further, the recorded ADS-B flight-tracking data generated by ADS-B Out-equipped tour aircraft can be used an essential part of a systemic approach to preventing Hawaii air tour accidents involving continued flight under VFR into IMC. Such an approach includes providing not only the flight tracking functions needed to enable real-time support for pilots from ground personnel but also the data that can be used to support operational safety assurance functions, such as part of an operator's SMS or FDM program. (See section 2.5.3 for more information about SMS and FDM programs and section 2.5.4 for more information about how ADS-B data can support safety assurance reviews.)

Although the traffic advisory system equipment we recommended in Safety Recommendation A-21-15 would inherently provide the real-time flight position data that air tour operators in Hawaii could use for flight tracking and safety assurance functions, it may take some time before such systems are developed and required. We note that relatively inexpensive ADS-B Out equipment that can transmit such data is already widely available. Therefore, the NTSB recommends that the FAA, as an interim measure until completion of the action to satisfy Safety Recommendation A-21-15, require Hawaii air tour operators to install ADS-B Out equipment in their aircraft to enable real-time flight position tracking.

06/26/23	Addressee	Official Correspondence	70574

-From Polly Trottenberg, Acting Administrator: The Federal Aviation Administration's (FAA) Air Traffic and Aviation Safety Organizations met to discuss these recommendations and review all guidance and requirements associated with 14 CFR Parts 91 and 135 air tours and Automatic Dependent Surveillance- Broadcast (ADS-B) Out and In. We determined that our current ADS-B requirements adequately address the needs of aviation safety and will not pursue any additional ADS-B requirements at this time. Our previous request to meet with National Transportation Safety Board staff is no longer needed.

The FAA also believes that current guidance and requirements are sufficient to meet the intent of these safety recommendations. Collectively, the following guidance and requirements provide a systematic approach to ensuring safe flight and operation:

• FAA Order 1800.56W, National Flight Standards Work Program Guidelines;
• § 91.225, Automatic Dependent Surveillance-Broadcast (ADS-B) Out Equipment and Use;
• § 91.227, Automatic Dependent Surveillance-Broadcast (ADS-B) Out Equipment Performance Requirements; and
• FAA Order 8900.1, Flight Standards Information Management System, with revision to five relevant sections currently in FAA internal review.

In addition, the FAA published the Safety Management Systems (SMS) Notice of Proposed Rulemaking on January 11, 2023 (88 FR 1932). The FAA is proposing to update and expand the requirements for SMS and require certain certificate holders and commercial air tour operators to develop and implement an SMS.

09/06/23	NTSB	NPRM Response	70843

On August 4, 2023, the Federal Aviation Administration (FAA) announced the publication of draft Advisory Circular (AC) 136-B048, Supplemental Information for the Creation of Operating Procedures and Pilot Training Subjects Related to OpSpec [operations specification]/LOA [letter of authorization] B048, and invited public comment on the document. The NTSB has a longstanding interest in air tour safety in the state of Hawaii, having investigated numerous Hawaii air tour accidents and issued many related safety recommendations and we offer our comments below.

We note that, based on the contents of the draft AC, it appears that the FAA's intent is that it will replace FAA document AWP13-136, the Hawaii Air Tour Common Procedures Manual (HATCPM), which the FAA issued in 2008 for use by operators that obtained authorization (through OpSpec B048 or LOA B548) to deviate from the minimum altitude specified in 14 Code of Federal Regulations (CFR) Part 136, Appendix A. For those operators that obtained authorization through OpSpec B048/LOA B548, compliance with the provisions of the HATCPM was mandatory. In our 2022 report on our investigation of the December 26, 2019, fatal air tour helicopter accident in Kekaha, Hawaii, we noted that the HATCPM had not been revised since it was issued and that the FAA informed us that it had been working on a replacement for about 7 years.

During our investigation, an air tour subject matter expert from the FAA's Air Transportation Division, [14 CFR] Part 135 Air Carrier Operations Branch, informed us that the FAA's vision for the new document was for it to be up to date; incorporate NTSB safety recommendations, congressional input, and National Park Service input; and be simpler, safer, and easier to manage. They also said that the document would likely address the use of Hawaii weather camera systems and operator implementation of safety management systems (SMSs).

We have examined the draft AC and are providing comments related to these issues and open NTSB recommendations related to air tour safety in Hawaii. We note that, although ACs, generally, are not regulatory documents, we presume that operators that obtain authorization through OpSpec/LOA B048 will be required to comply with the AC's provisions (similar to the mandatory compliance with the HATCPM for those operators that held deviation authority).

Automatic Dependent Surveillance-Broadcast Equipment Applications

During our investigation of a 2019 fatal midair collision involving two air tour airplanes in Ketchikan, Alaska, we observed that high-traffic air tour areas have a higher midair collision risk than the general National Airspace System.3 As a result, in 2021, we issued Safety Recommendation A-21-15, which urged the FAA to do the following:
Identify high-traffic air tour areas and require, through a special federal aviation regulation (SFAR) or other means, that 14 CFR Parts 91 and 135 air tour operators that operate within those areas be equipped with an automatic dependent surveillance-broadcast (ADS-B) Out- and In-supported traffic advisory system that 1) includes both visual and aural alerts, 2) is driven by an algorithm designed to minimize nuisance alerts, and 3) is operational during all flight operations.

Due to the presence of similar risks in high-traffic air tour areas in Hawaii, as well as the usefulness of ADS-B broadcast data for monitoring air tour flights and potentially detecting deviations from safe operating practices (discussed further below), we reiterated Safety Recommendation A-21-15 in our 2022 report on the Kekaha accident. However, the FAA recently informed us that it determined that current ADS-B requirements adequately address the needs of aviation safety and that it did not plan to pursue any additional ADS-B requirements at this time.

In 2022, we issued Safety Recommendation A-22-13 (also from our report on the Kekaha accident), which urged the FAA to require, as an interim measure until the completion of action to satisfy Safety Recommendation A-21-15, that Hawaii air tour operators install ADS-B Out equipment in their aircraft to enable real-time flight position tracking. In August 2022, the FAA informed us that it was revising OpSpec B048/LOA B548 and that it was continuing to evaluate requirements for the use of ADS-B Out equipment in air tour operators' aircraft as a requirement to obtain the revised OpSpec B048/LOA B548. Pending review of the revised OpSpec and LOA and completion of the recommended action, Safety Recommendation A-22-13 is classified Open—Acceptable Response.

We note that, although the draft AC recommends that Hawaii air tour operators install ADS-B equipment with In and Out capability and inform the FAA about its use, the AC does not state that such equipment will be required. Therefore, after the AC is issued, the FAA will still need to complete the revisions to OpSpec B048/LOA B548 to satisfy Safety Recommendation A-22-13.

10/24/23	NTSB	Official Correspondence	70574

We note that you do not intend to take the recommended actions because you believe these recommendations are sufficiently addressed by existing guidance and requirements.

We have reviewed Orders 1800.56W and 8900.1, which contain guidance for inspectors on conducting surveillance, as well as Parts 91.225 and 91.227, which pertain to ADS-B Out equipment and its use. We have also reviewed the safety management system (SMS) notice of proposed rulemaking (NPRM), which was published earlier this year and proposed requiring Part 135 operators and Part 91.147 air tour operators to implement an SMS. However, we did not find anything in these documents that addresses the specific concerns discussed in these recommendations.

We issued these recommendations because we believe technology that supplements pilots' traffic scans by providing aural and visual alerts can mitigate the risk of midair collisions. Although ADS-B-supported airborne traffic advisory systems can mitigate the risk of midair collision accidents, ADS-B Out is only required in certain airspace and there is no requirement for ADS-B In, which can provide pilots awareness of nearby traffic by displaying targets on the cockpit display of traffic information (CDTI). We remain concerned that, due to the high concentration of traffic in popular air tour areas, the risk of a collision is higher than in the general national airspace. Therefore, we continue to believe that you should identify high-traffic air tour areas and require Parts 91 and 135 air tour operators that operate within those areas to install an ADS-B Out- and In-supported airborne traffic advisory system. Pending our review of a plan to address these concerns and completion of the recommended actions, Safety Recommendation A-21-15 is classified OPEN--UNACCEPTABLE RESPONSE.

Because some of the high-traffic air tour areas identified in response to Safety Recommendation A-21-15 may involve operations conducted below radar coverage or outside the range of an ADS-B ground station, we are concerned that air tour aircraft equipped with ADS-B traffic advisory systems may not receive alerts for aircraft that are not equipped with ADS-B Out and are operating within the air tour areas. Therefore, we continue to believe that all aircraft operating within high-traffic air tour areas should be equipped with ADS-B Out. Pending this action, Safety Recommendation A-21-16 is classified Open—Unacceptable Response.

The lack of a requirement for ADS-B In-based traffic awareness displays for all aircraft conducting Part 135 operations fails to take advantage of the demonstrated benefit of this technology in mitigating the midair collision hazard. In the FAA's NPRM for fractional aircraft ownership, the FAA stated that aircraft owners flying aboard aircraft that they own or lease "exercise full control over and bear full responsibility for the airworthiness and operation of their aircraft." In contrast, the FAA stated that passengers who are transported under Parts 121 and 135 "exercise no control over and bear no responsibility for the airworthiness or operation of the aircraft aboard which they are flown." The FAA concluded that the "appropriate level of public safety is provided by . . . very stringent regulations and oversight under Part 121 and Part 135." We point out that aircraft without ADS-B do not demonstrate the "appropriate level of safety" for passenger-carrying operations conducted under Part 135 regulations. Therefore, we continue to believe that all aircraft operating under Part 135 should be equipped with ADS-B Out- and In-supported airborne traffic advisory systems. Pending this action, Safety Recommendation A-21-17 remains classified Open—Unacceptable Response.

11/06/24	Addressee	Official Correspondence	73962

-Michael G. Whitaker, Administrator: As previously stated, the Federal Aviation Administration's (FAA) Air Traffic and Aviation Safety Organizations met to discuss these recommendations and reviewed all guidance and requirements associated with 14 CFR Parts 91 and 135 air tours and Automatic Dependent Surveillance-Broadcast (ADS-B) Out and In. Based on that discussion, it was determined that our current ADS-B requirements continue to adequately address the needs of aviation safety. The FAA will not pursue additional ADS-B operator requirements at this time.

The FAA published the Safety Management Systems (SMS) Final Rule on April 26, 2024 (89 FR 33068). This rule extends the requirement for an SMS in Part 5 to all Part 135 certificate
holders operating under the rules for commuter and on-demand operations, commercial air tour operators, production certificate holders that are holders or licensees of a type certificate for the same product, and holders of a type certificate that license out that type certificate for production. The publishing of this SMS rule also fulfills a Congressional mandate as well as recommendations from the National Transportation Safety Board and two aviation rulemaking committees. Additionally, the SMS rule more closely aligns the United States with Annex 19 to the Convention on International Civil Aviation. Finally, the SMS rule will improve aviation safety by requiring certificate holder organizations to implement a proactive approach to managing their air transportation safety.

Recommendation Report

3/19/2025 4:00:00 PM

Product/Notation Id	66857 /	**Accident Date:**	05/13/19	**Issue Date:**	05/13/21
City/State:	Ketchikan, AK	**Accident #:**	CEN19MA141AB	**Most Wanted List:**	No

On May 13, 2019, about 1221 Alaska daylight time, a float-equipped de Havilland DHC-2 (Beaver) airplane, N952DB, and a float-equipped de Havilland DHC-3 (Otter) airplane, N959PA, collided in midair about 8 miles northeast of Ketchikan, Alaska. The DHC-2 pilot and four passengers sustained fatal injuries. The DHC-3 pilot sustained minor injuries, nine passengers sustained serious injuries, and one passenger sustained fatal injuries. The DHC-2 was destroyed and the DHC-3 sustained substantial damage. The DHC-2 was registered to and operated by Mountain Air Service LLC, Ketchikan, Alaska, under the provisions of Title 14 Code of Federal Regulations (CFR) Part 135 as an on-demand sightseeing flight. The DHC-3 was registered to Pantechnicon Aviation LTD, Minden, Nevada, and operated by Venture Travel, LLC, dba Taquan Air, Ketchikan, Alaska, under the provisions of Part 135 as an on-demand sightseeing flight. Visual meteorological conditions prevailed in the area at the time of the accident.
According to information provided by the operators, both airplanes had been conducting sightseeing flights and were both converging on a scenic waterfall before returning to the Ketchikan Harbor Seaplane Base (5KE), Ketchikan, Alaska, when the accident occurred. Automatic dependent surveillance-broadcast (ADS-B) tracking data for both airplanes revealed that, at 1217:15, the DHC-3 was about level at 4,000 ft mean sea level (msl) on a track of 225°, and the DHC-2 was 4.2 nautical miles (nm) south of the DHC-3, climbing through 2,800 ft msl, on a track of 255°.1 About 1219, the DHC-3 started a descent from 4,000 ft, and the DHC-2 was at 3,175 ft and climbing. During the next 1 minute 21 seconds, the DHC-3 continued to descend on a track between 224° and 237°, and the DHC-2 leveled out at 3,350 ft on a track of about 255°. The airplanes collided at 1221:14 at an altitude of 3,350 ft, 7.4 nm northeast of 5KE.

Recommendation # :		A-21-016	**Overall Status:**	Open - Unacceptable Response	CLASS II

TO THE FEDERAL AVIATION ADMINISTRATION: In the high-traffic air tour areas identified in Safety Recommendation A-21-15, require that all non–air tour aircraft operating within the airspace be equipped with Automatic Dependent Surveillance-Broadcast Out.

# of Addressees:	1			**Overall Date Closed:**	N/A
Addressee:	FAA		Open - Unacceptable Response	**Date Closed:**	N/A
05/13/21	NTSB	Transmittal Letter		67505	

The attached letter from the NTSB Chairman provides information about the NTSB's April 20, 2021, report Midair Collision over George Inlet, de Havilland DHC-2, N952DB, and de Havilland DHC-3, N959PA, Ketchikan, Alaska, May 13, 2019, NTSB/AAR-21-04. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at http://www.ntsb.gov.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (for example, A-21-15 thru -20 and A-16-36). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply exceeds 20 megabytes, including attachments, please e mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

This letter provides information about the National Transportation Safety Board's (NTSB) April 20, 2021, report Midair Collision over George Inlet, de Havilland DHC-2, N952DB, and de Havilland DHC-3, N959PA, Ketchikan, Alaska, May 13, 2019, AAR-21-04. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at http://www.ntsb.gov.

As a result of this investigation, we identified the following safety issues:

• The inherent limitations of the see-and-avoid collision avoidance concept.
• The benefit of Automatic Dependent Surveillance-Broadcast (ADS-B) Out- and In supported traffic advisory systems in high-traffic

tour areas.
• The lack of an ADS-B In requirement for Title 14 Code of Federal Regulations Part 135 operations.
• The lack of cockpit display of traffic information alerting on both aircraft.
• The loss of alerting capabilities with ADS-B systems installed as part of the Federal Aviation Administration's (FAA) post-Capstone upgrade program.
• An inadequate checklist used in Taquan Air's operation.
• Lack of a requirement for safety management systems in Part 135 operations.

Accordingly, the NTSB makes the following safety recommendations to the FAA. Additional information regarding these recommendations can be found in the noted sections of the report.

• Identify high-traffic air tour areas and require, through a special federal aviation regulation or other means, that Title 14 Code of Federal Regulations Parts 91 and 135 air tour operators that operate within those areas be equipped with an Automatic Dependent Surveillance-Broadcast Out- and In-supported traffic advisory system that 1) includes both visual and aural alerts, 2) is driven by an algorithm designed to minimize nuisance alerts, and 3) is operational during all flight operations. (A-21-15) (See section 2.4)

• In the high-traffic air tour areas identified in Safety Recommendation A-21-015, require that all non–air tour aircraft operating within the airspace be equipped with Automatic Dependent Surveillance-Broadcast Out. (A-21-16) (See section 2.4)

• Require the installation of Automatic Dependent Surveillance-Broadcast Out- and In supported airborne traffic advisory systems that include aural and visual alerting functions in all aircraft conducting operations under Title 14 Code of Federal Regulations Part 135. (A-21-17) (See section 2.5)

• Review current and future supplemental type certificate installation instructions and flight manual supplements to ensure they provide provisions to prevent the inadvertent disabling of the broadcast of pressure altitude data, by design, where practicable. (A-21-18) (See section 2.6.2)

• Ensure that checklists for all Capstone Program (phase 2) aircraft include verification that the Garmin GSL 71 control head selector knob is in the ON position and that the unit is in ALT mode before takeoff. (A-21-19) (See section 2.7)

• Update the Aeronautical Information Manual and the Pilot's Handbook of Aeronautical Knowledge to include the limitations inherent in visual scans for traffic and the benefits and best practices of using cockpit displays of traffic information to supplement visual scans to help overcome these limitations. (A-21-20) (See section 2.8)

In addition, the NTSB reiterates the following recommendations to the FAA:

• Require all 14 Code of Federal Regulations Part 135 operators to establish safety management system programs. (A-16-36) (See section 2.9)

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (Safety Recommendations, A-21-15 through -20). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e mail us at the same address for instructions. Please do not submit both an electronic copy and a hard copy of the same response.

07/21/21	Addressee	Official Correspondence	67530

-From Steve Dickson, Administrator: The Federal Aviation Administration's (FAA) Air Traffic Organization and Aviation Safety Organization met to discuss these recommendations, and determined that prior to the FAA committing to the requested set of actions, a meeting with NTSB staff is needed to further clarify the intent of the recommendations. The FAA is currently in the process of setting up this meeting.

02/04/22	NTSB	Official Correspondence	67530

You reported that, before committing to taking the actions described in these recommendations, your staff wanted to meet to discuss the intent of these recommendations. When we reached out to schedule a meeting, your staff informed us that a meeting was no longer necessary. Because you have not committed to taking the recommended actions and you have not informed us of the specific activities that you are taking to review these recommendations, we do not have enough information to determine if your actions are responsive. Therefore, pending our receipt of this additional information and completion of the recommended actions, Safety Recommendations A-21-15 and -16 remain classified OPEN-- AWAIT RESPONSE.			
06/26/23	Addressee	Official Correspondence	70574
-From Polly Trottenberg, Acting Administrator: The Federal Aviation Administration's (FAA) Air Traffic and Aviation Safety Organizations met to discuss these recommendations and review all guidance and requirements associated with 14 CFR Parts 91 and 135 air tours and Automatic Dependent Surveillance- Broadcast (ADS-B) Out and In. We determined that our current ADS-B requirements adequately address the needs of aviation safety and will not pursue any additional ADS-B requirements at this time. Our previous request to meet with National Transportation Safety Board staff is no longer needed. The FAA also believes that current guidance and requirements are sufficient to meet the intent of these safety recommendations. Collectively, the following guidance and requirements provide a systematic approach to ensuring safe flight and operation: • FAA Order 1800.56W, National Flight Standards Work Program Guidelines; • § 91.225, Automatic Dependent Surveillance-Broadcast (ADS-B) Out Equipment and Use; • § 91.227, Automatic Dependent Surveillance-Broadcast (ADS-B) Out Equipment Performance Requirements; and • FAA Order 8900.1, Flight Standards Information Management System, with revision to five relevant sections currently in FAA internal review. In addition, the FAA published the Safety Management Systems (SMS) Notice of Proposed Rulemaking on January 11, 2023 (88 FR 1932). The FAA is proposing to update and expand the requirements for SMS and require certain certificate holders and commercial air tour operators to develop and implement an SMS.			
10/24/23	NTSB	Official Correspondence	70574

We note that you do not intend to take the recommended actions because you believe these recommendations are sufficiently addressed by existing guidance and requirements.

We have reviewed Orders 1800.56W and 8900.1, which contain guidance for inspectors on conducting surveillance, as well as Parts 91.225 and 91.227, which pertain to ADS-B Out equipment and its use. We have also reviewed the safety management system (SMS) notice of proposed rulemaking (NPRM), which was published earlier this year and proposed requiring Part 135 operators and Part 91.147 air tour operators to implement an SMS. However, we did not find anything in these documents that addresses the specific concerns discussed in these recommendations.

We issued these recommendations because we believe technology that supplements pilots' traffic scans by providing aural and visual alerts can mitigate the risk of midair collisions. Although ADS-B-supported airborne traffic advisory systems can mitigate the risk of midair collision accidents, ADS-B Out is only required in certain airspace and there is no requirement for ADS-B In, which can provide pilots awareness of nearby traffic by displaying targets on the cockpit display of traffic information (CDTI). We remain concerned that, due to the high concentration of traffic in popular air tour areas, the risk of a collision is higher than in the general national airspace. Therefore, we continue to believe that you should identify high-traffic air tour areas and require Parts 91 and 135 air tour operators that operate within those areas to install an ADS-B Out- and In-supported airborne traffic advisory system. Pending our review of a plan to address these concerns and completion of the recommended actions, Safety Recommendation A-21-15 is classified Open—Unacceptable Response.

Because some of the high-traffic air tour areas identified in response to Safety Recommendation A-21-15 may involve operations conducted below radar coverage or outside the range of an ADS-B ground station, we are concerned that air tour aircraft equipped with ADS-B traffic advisory systems may not receive alerts for aircraft that are not equipped with ADS-B Out and are operating within the air tour areas. Therefore, we continue to believe that all aircraft operating within high-traffic air tour areas should be equipped with ADS-B Out. Pending this action, Safety Recommendation A-21-16 is classified OPEN-- UNACCEPTABLE RESPONSE.

The lack of a requirement for ADS-B In-based traffic awareness displays for all aircraft conducting Part 135 operations fails to take advantage of the demonstrated benefit of this technology in mitigating the midair collision hazard. In the FAA's NPRM for fractional aircraft ownership, the FAA stated that aircraft owners flying aboard aircraft that they own or lease "exercise full control over and bear full responsibility for the airworthiness and operation of their aircraft." In contrast, the FAA stated that passengers who are transported under Parts 121 and 135 "exercise no control over and bear no responsibility for the airworthiness or operation of the aircraft aboard which they are flown." The FAA concluded that the "appropriate level of public safety is provided by . . . very stringent regulations and oversight under Part 121 and Part 135." We point out that aircraft without ADS-B do not demonstrate the "appropriate level of safety" for passenger-carrying operations conducted under Part 135 regulations. Therefore, we continue to believe that all aircraft operating under Part 135 should be equipped with ADS-B Out- and In-supported airborne traffic advisory systems. Pending this action, Safety Recommendation A-21-17 remains classified Open—Unacceptable Response.

11/06/24	Addressee	Official Correspondence	73962

-Michael G. Whitaker, Administrator: As previously stated, the Federal Aviation Administration's (FAA) Air Traffic and Aviation Safety Organizations met to discuss these recommendations and reviewed all guidance and requirements associated with 14 CFR Parts 91 and 135 air tours and Automatic Dependent Surveillance-Broadcast (ADS-B) Out and In. Based on that discussion, it was determined that our current ADS-B requirements continue to adequately address the needs of aviation safety. The FAA will not pursue additional ADS-B operator requirements at this time.

The FAA published the Safety Management Systems (SMS) Final Rule on April 26, 2024 (89 FR 33068). This rule extends the requirement for an SMS in Part 5 to all Part 135 certificate
holders operating under the rules for commuter and on-demand operations, commercial air tour operators, production certificate holders that are holders or licensees of a type certificate for the same product, and holders of a type certificate that license out that type certificate for production. The publishing of this SMS rule also fulfills a Congressional mandate as well as recommendations from the National Transportation Safety Board and two aviation rulemaking committees. Additionally, the SMS rule more closely aligns the United States with Annex 19 to the Convention on International Civil Aviation. Finally, the SMS rule will improve aviation safety by requiring certificate holder organizations to implement a proactive approach to managing their air transportation safety.

Recommendation Report

3/19/2025 4:00:00 PM

Product/Notation Id	66857 /	**Accident Date:**	05/13/19	**Issue Date:**	05/13/21
City/State:	Ketchikan, AK	**Accident #:**	CEN19MA141AB	**Most Wanted List:**	No

On May 13, 2019, about 1221 Alaska daylight time, a float-equipped de Havilland DHC-2 (Beaver) airplane, N952DB, and a float-equipped de Havilland DHC-3 (Otter) airplane, N959PA, collided in midair about 8 miles northeast of Ketchikan, Alaska. The DHC-2 pilot and four passengers sustained fatal injuries. The DHC-3 pilot sustained minor injuries, nine passengers sustained serious injuries, and one passenger sustained fatal injuries. The DHC-2 was destroyed and the DHC-3 sustained substantial damage. The DHC-2 was registered to and operated by Mountain Air Service LLC, Ketchikan, Alaska, under the provisions of Title 14 Code of Federal Regulations (CFR) Part 135 as an on-demand sightseeing flight. The DHC-3 was registered to Pantechnicon Aviation LTD, Minden, Nevada, and operated by Venture Travel, LLC, dba Taquan Air, Ketchikan, Alaska, under the provisions of Part 135 as an on-demand sightseeing flight. Visual meteorological conditions prevailed in the area at the time of the accident.
According to information provided by the operators, both airplanes had been conducting sightseeing flights and were both converging on a scenic waterfall before returning to the Ketchikan Harbor Seaplane Base (5KE), Ketchikan, Alaska, when the accident occurred. Automatic dependent surveillance-broadcast (ADS-B) tracking data for both airplanes revealed that, at 1217:15, the DHC-3 was about level at 4,000 ft mean sea level (msl) on a track of 225°, and the DHC-2 was 4.2 nautical miles (nm) south of the DHC-3, climbing through 2,800 ft msl, on a track of 255°.1 About 1219, the DHC-3 started a descent from 4,000 ft, and the DHC-2 was at 3,175 ft and climbing. During the next 1 minute 21 seconds, the DHC-3 continued to descend on a track between 224° and 237°, and the DHC-2 leveled out at 3,350 ft on a track of about 255°. The airplanes collided at 1221:14 at an altitude of 3,350 ft, 7.4 nm northeast of 5KE.

Recommendation # :		A-21-017	**Overall Status:**	Open - Unacceptable Response	CLASS II

TO THE FEDERAL AVIATION ADMINISTRATION: Require the installation of Automatic Dependent Surveillance-Broadcast Out- and In-supported airborne traffic advisory systems that include aural and visual alerting functions in all aircraft conducting operations under Title 14 Code of Federal Regulations Part 135.

# of Addressees:	1			**Overall Date Closed:**	N/A
Addressee:	FAA		Open - Unacceptable Response	**Date Closed:**	N/A
05/21/21	NTSB	Transmittal Letter		67505	

The attached letter from the NTSB Chairman provides information about the NTSB's April 20, 2021, report Midair Collision over George Inlet, de Havilland DHC-2, N952DB, and de Havilland DHC-3, N959PA, Ketchikan, Alaska, May 13, 2019, NTSB/AAR-21-04. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at http://www.ntsb.gov.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (for example, A-21-15 thru -20 and A-16-36). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply exceeds 20 megabytes, including attachments, please e mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

This letter provides information about the National Transportation Safety Board's (NTSB) April 20, 2021, report Midair Collision over George Inlet, de Havilland DHC-2, N952DB, and de Havilland DHC-3, N959PA, Ketchikan, Alaska, May 13, 2019, AAR-21-04. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at http://www.ntsb.gov.

As a result of this investigation, we identified the following safety issues:

• The inherent limitations of the see-and-avoid collision avoidance concept.

• The benefit of Automatic Dependent Surveillance-Broadcast (ADS-B) Out- and In supported traffic advisory systems in high-traffic tour areas.
• The lack of an ADS-B In requirement for Title 14 Code of Federal Regulations Part 135 operations.
• The lack of cockpit display of traffic information alerting on both aircraft.
• The loss of alerting capabilities with ADS-B systems installed as part of the Federal Aviation Administration's (FAA) post-Capstone upgrade program.
• An inadequate checklist used in Taquan Air's operation.
• Lack of a requirement for safety management systems in Part 135 operations.

Accordingly, the NTSB makes the following safety recommendations to the FAA. Additional information regarding these recommendations can be found in the noted sections of the report.

• Identify high-traffic air tour areas and require, through a special federal aviation regulation or other means, that Title 14 Code of Federal Regulations Parts 91 and 135 air tour operators that operate within those areas be equipped with an Automatic Dependent Surveillance-Broadcast Out- and In-supported traffic advisory system that 1) includes both visual and aural alerts, 2) is driven by an algorithm designed to minimize nuisance alerts, and 3) is operational during all flight operations. (A-21-15) (See section 2.4)

• In the high-traffic air tour areas identified in Safety Recommendation A-21-015, require that all non–air tour aircraft operating within the airspace be equipped with Automatic Dependent Surveillance-Broadcast Out. (A-21-16) (See section 2.4)

• Require the installation of Automatic Dependent Surveillance-Broadcast Out- and In supported airborne traffic advisory systems that include aural and visual alerting functions in all aircraft conducting operations under Title 14 Code of Federal Regulations Part 135. (A-21-17) (See section 2.5)

• Review current and future supplemental type certificate installation instructions and flight manual supplements to ensure they provide provisions to prevent the inadvertent disabling of the broadcast of pressure altitude data, by design, where practicable. (A-21-18) (See section 2.6.2)

• Ensure that checklists for all Capstone Program (phase 2) aircraft include verification that the Garmin GSL 71 control head selector knob is in the ON position and that the unit is in ALT mode before takeoff. (A-21-19) (See section 2.7)

• Update the Aeronautical Information Manual and the Pilot's Handbook of Aeronautical Knowledge to include the limitations inherent in visual scans for traffic and the benefits and best practices of using cockpit displays of traffic information to supplement visual scans to help overcome these limitations. (A-21-20) (See section 2.8)

In addition, the NTSB reiterates the following recommendations to the FAA:

• Require all 14 Code of Federal Regulations Part 135 operators to establish safety management system programs. (A-16-36) (See section 2.9)

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (Safety Recommendations, A-21-15 through -20). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e mail us at the same address for instructions. Please do not submit both an electronic copy and a hard copy of the same response.

07/21/21	Addressee	Official Correspondence	67530

-From Steve Dickson, Administrator: The FAA agrees that Automatic Dependent Surveillance-Broadcast (ADS-B) Out/In systems support traffic advisories and contribute to aviation safety. Title 14 CFR § 91.225, ADS Out Equipment and Use, states in part that after January 1, 2020, unless authorized by air traffic control, no person, including Title 14 CFR parts 121 and 135 operators, may operate an aircraft unless it is equipped with ADS-B "Out" installed which meets published performance requirements. Advances in technology have made new systems less expensive and as a result, flight departments and aircraft owners have elected to include the ADS-B "In" option that includes a visual and aural warning, on a significant number of their ADS-B equipped aircraft. Since rulemaking would be required and may take several years, the FAA will continue to evaluate the voluntary increase of the use of ADS-B "In" systems but elects not to commit to rulemaking action at this time.

02/04/22	NTSB	Official Correspondence	67530

We note that, since January 1, 2020, all aircraft are required to be equipped with ADS-B Out, and that new ADS-B Out- and In-supported systems that include aural and visual alerting functions are more affordable and are being voluntarily installed on aircraft. We further note that, although you do not currently plan to pursue rulemaking to address these recommendations, you plan to evaluate the voluntary use of ADS-B In systems.

We do not believe your plan to evaluate the voluntary use of ADS-B In systems, alone, is sufficient to address this important safety issue. We point out that, although aircraft operating above 10,000 ft msl and within or above class B and C airspace are required to be equipped with ADS-B Out, this requirement does not apply to aircraft operating in the Ketchikan area or other high-traffic tour areas as identified in Safety Recommendation A-21-15. We also point out that the requirement for redundant presentation (aural and visual) of alert information specified in Part 25.1322(c)(2) is only for transport-category airplanes and does not apply to the alerting systems of smaller, normal-category airplanes, such as the two airplanes involved in this accident.

Pending the FAA sending us a plan for addressing these concerns and completing the recommended action, Safety Recommendation A-21-17 is classified OPEN-- UNACCEPTABLE RESPONSE.

06/26/23	Addressee	Official Correspondence	70574

-From Polly Trottenberg, Acting Administrator: The Federal Aviation Administration's (FAA) Air Traffic and Aviation Safety Organizations met to discuss these recommendations and review all guidance and requirements associated with 14 CFR Parts 91 and 135 air tours and Automatic Dependent Surveillance- Broadcast (ADS-B) Out and In. We determined that our current ADS-B requirements adequately address the needs of aviation safety and will not pursue any additional ADS-B requirements at this time. Our previous request to meet with National Transportation Safety Board staff is no longer needed.

The FAA also believes that current guidance and requirements are sufficient to meet the intent of these safety recommendations. Collectively, the following guidance and requirements provide a systematic approach to ensuring safe flight and operation:

• FAA Order 1800.56W, National Flight Standards Work Program Guidelines;
• § 91.225, Automatic Dependent Surveillance-Broadcast (ADS-B) Out Equipment and Use;
• § 91.227, Automatic Dependent Surveillance-Broadcast (ADS-B) Out Equipment Performance Requirements; and
• FAA Order 8900.1, Flight Standards Information Management System, with revision to five relevant sections currently in FAA internal review.

In addition, the FAA published the Safety Management Systems (SMS) Notice of Proposed Rulemaking on January 11, 2023 (88 FR 1932). The FAA is proposing to update and expand the requirements for SMS and require certain certificate holders and commercial air tour operators to develop and implement an SMS.

10/24/23	NTSB	Official Correspondence	70574

We note that you do not intend to take the recommended actions because you believe these recommendations are sufficiently addressed by existing guidance and requirements.

We have reviewed Orders 1800.56W and 8900.1, which contain guidance for inspectors on conducting surveillance, as well as Parts 91.225 and 91.227, which pertain to ADS-B Out equipment and its use. We have also reviewed the safety management system (SMS) notice of proposed rulemaking (NPRM), which was published earlier this year and proposed requiring Part 135 operators and Part 91.147 air tour operators to implement an SMS. However, we did not find anything in these documents that addresses the specific concerns discussed in these recommendations.

We issued these recommendations because we believe technology that supplements pilots' traffic scans by providing aural and visual alerts can mitigate the risk of midair collisions. Although ADS-B-supported airborne traffic advisory systems can mitigate the risk of midair collision accidents, ADS-B Out is only required in certain airspace and there is no requirement for ADS-B In, which can provide pilots awareness of nearby traffic by displaying targets on the cockpit display of traffic information (CDTI). We remain concerned that, due to the high concentration of traffic in popular air tour areas, the risk of a collision is higher than in the general national airspace. Therefore, we continue to believe that you should identify high-traffic air tour areas and require Parts 91 and 135 air tour operators that operate within those areas to install an ADS-B Out- and In-supported airborne traffic advisory system. Pending our review of a plan to address these concerns and completion of the recommended actions, Safety Recommendation A-21-15 is classified Open—Unacceptable Response.

Because some of the high-traffic air tour areas identified in response to Safety Recommendation A-21-15 may involve operations conducted below radar coverage or outside the range of an ADS-B ground station, we are concerned that air tour aircraft equipped with ADS-B traffic advisory systems may not receive alerts for aircraft that are not equipped with ADS-B Out and are operating within the air tour areas. Therefore, we continue to believe that all aircraft operating within high-traffic air tour areas should be equipped with ADS-B Out. Pending this action, Safety Recommendation A-21-16 is classified Open—Unacceptable Response.

The lack of a requirement for ADS-B In-based traffic awareness displays for all aircraft conducting Part 135 operations fails to take advantage of the demonstrated benefit of this technology in mitigating the midair collision hazard. In the FAA's NPRM for fractional aircraft ownership, the FAA stated that aircraft owners flying aboard aircraft that they own or lease "exercise full control over and bear full responsibility for the airworthiness and operation of their aircraft." In contrast, the FAA stated that passengers who are transported under Parts 121 and 135 "exercise no control over and bear no responsibility for the airworthiness or operation of the aircraft aboard which they are flown." The FAA concluded that the "appropriate level of public safety is provided by . . . very stringent regulations and oversight under Part 121 and Part 135." We point out that aircraft without ADS-B do not demonstrate the "appropriate level of safety" for passenger-carrying operations conducted under Part 135 regulations. Therefore, we continue to believe that all aircraft operating under Part 135 should be equipped with ADS-B Out- and In-supported airborne traffic advisory systems. Pending this action, Safety Recommendation A-21-17 remains classified OPEN-- UNACCEPTABLE RESPONSE.

11/06/24	Addressee	Official Correspondence	73962

-Michael G. Whitaker, Administrator: As previously stated, the Federal Aviation Administration's (FAA) Air Traffic and Aviation Safety Organizations met to discuss these recommendations and reviewed all guidance and requirements associated with 14 CFR Parts 91 and 135 air tours and Automatic Dependent Surveillance-Broadcast (ADS-B) Out and In. Based on that discussion, it was determined that our current ADS-B requirements continue to adequately address the needs of aviation safety. The FAA will not pursue additional ADS-B operator requirements at this time.

The FAA published the Safety Management Systems (SMS) Final Rule on April 26, 2024 (89 FR 33068). This rule extends the requirement for an SMS in Part 5 to all Part 135 certificate
holders operating under the rules for commuter and on-demand operations, commercial air tour operators, production certificate holders that are holders or licensees of a type certificate for the same product, and holders of a type certificate that license out that type certificate for production. The publishing of this SMS rule also fulfills a Congressional mandate as well as recommendations from the National Transportation Safety Board and two aviation rulemaking committees. Additionally, the SMS rule more closely aligns the United States with Annex 19 to the Convention on International Civil Aviation. Finally, the SMS rule will improve aviation safety by requiring certificate holder organizations to implement a proactive approach to managing their air transportation safety.

Recommendation Report

3/19/2025 4:00:00 PM

Product/Notation Id	67354 /	**Accident Date:**	03/28/18	**Issue Date:**	09/07/21
City/State:	Washington, DC	**Accident #:**	DCA18SS003	**Most Wanted List:**	No

Turbulence-related accidents are the most common type of accident involving air carriers operating under Title 14 Code of Federal Regulations (CFR) Part 121. From 2009 through 2018, the National Transportation Safety Board (NTSB) found that turbulence-related accidents accounted for more than a third of all Part 121 accidents; most of these accidents resulted in one or more serious injuries but no aircraft damage. This NTSB safety research report examines the prevalence and risk factors of turbulence-related accidents in Part 121 air carrier operations; assesses the effectiveness of policies, programs, technologies, and other applicable safety countermeasures; and makes recommendations for improving turbulence avoidance and injury mitigation.

Recommendation # :		A-21-028	**Overall Status:**	Open - Unacceptable Response	CLASS II

TO THE FEDERAL AVIATION ADMINISTRATION: Incorporate the automatic dependent surveillance-broadcast weather capability in the next version of the automatic dependent surveillance-broadcast technical standard order.

# of Addressees:	1			**Overall Date Closed:**	N/A
Addressee:	FAA		Open - Unacceptable Response	**Date Closed:**	N/A
09/07/21	NTSB	Transmittal Letter		67718	

The attached letter from the NTSB Chairman provides information about the NTSB's August 10, 2021, report Preventing Turbulence-Related Injuries in Air Carrier Operations Conducted Under Title 14 Code of Federal Regulations Part 121, NTSB/SS-21/01. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at http://www.ntsb.gov.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (for example, A-21-25 through -42; Reiterated Recommendations A-17-21 and -22, A-17-26; Classified and Reiterated Recommendation A-17-25). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply exceeds 20 megabytes, including attachments, please e mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

This letter provides information about the National Transportation Safety Board's (NTSB) August 10, 2021, report Preventing Turbulence-Related Injuries in Air Carrier Operations Conducted Under Title 14 Code of Federal Regulations Part 121, NTSB/SS-21/01. The details of this safety research and the resulting safety recommendations may be found in the attached report, which can also be accessed at http://www.ntsb.gov.

As a result of this research, we identified the following safety issues:

• Insufficient submission and dissemination of turbulence observations.
• A lack of shared awareness of turbulence risks.
• The need for mitigation of common turbulence-related injury circumstances.
• The need for updated turbulence guidance.

Accordingly, the NTSB makes the following safety recommendations to the Federal Aviation Administration. Additional information regarding these recommendations can be found in the noted sections of the report.

• Work with stakeholders to standardize the distribution of pilot weather reports (PIREPs) across and within air traffic control facilities to ensure they are disseminated to only those facilities and air traffic controller positions for which each PIREP applies. (A-21-25)

(See section 4.1.1.)

• As a condition of enhanced weather information system approval, require Title 14 Code of Federal Regulations Part 121 air carriers to disseminate all turbulence observations to the National Airspace System as pilot weather reports, as well as reports of smooth ride conditions. (A-21-26) (See section 4.1.1.)

• Determine how to harmonize current and future eddy dissipation rate algorithm performance in operational environments and publish the results of this determination. (A 21-27) (See section 4.1.2.)

• Incorporate the automatic dependent surveillance-broadcast weather capability in the next version of the automatic dependent surveillance broadcast technical standard order. (A 21 28) (See section 4.1.2.)

• After the automatic dependent surveillance-broadcast (ADS-B) technical standard order is revised as recommended in Safety Recommendation A 21 28, require that aircraft flown in Title 14 Code of Federal Regulations Part 121 air carrier operations be retrofitted with automatic dependent surveillance broadcast weather capable ADS-B equipment. (A 21 29) (See section 4.1.2.)

• Require automatic dependent surveillance-broadcast weather (ADS-B Wx)-equipped aircraft to broadcast ADS-B Wx information when operating in airspace requiring automatic dependent surveillance-broadcast capability as defined by Title 14 Code of Federal Regulations 91.225. (A-21-30) (See section 4.1.2.)

• In collaboration with the National Weather Service, modify airmen's meteorological information (AIRMET) advisory issuing practices to include graphical AIRMET advisories with higher granularity, taking into account the effect it would have on all National Airspace System users. (A-21-31) (See section 4.2.1.)

• Distribute graphical airmen's meteorological information advisories, significant meteorological information advisories, and center weather advisories to air traffic controllers as controller-selectable layers on current and future controller radar displays in air route traffic control centers and terminal radar approach control facilities. (A 21 32) (See section 4.2.1.)

• Work with local safety councils to develop training on the use of the advisories developed for Safety Recommendation A-21-32. (A-21-33) (See section 4.2.1.)

• In collaboration with the National Weather Service, operationalize a turbulence nowcast, such as the graphical turbulence guidance nowcast. (A-21-34) (See section 4.2.2.)

• Develop air traffic control guidelines for use of the turbulence nowcast operationalized in accordance with Safety Recommendations A-21-34 and A-21-44. (A-21-35) (See section 4.2.2.)

• Incorporate total lightning and hail information as selectable layers on air traffic controller radar displays in air route traffic control centers and terminal radar approach control facilities. (A-21-36) (See section 4.2.3.)

• After the action in Safety Recommendation A-21-36 is completed, provide training to air traffic controllers on the use of the controller-selectable total lightning and hail information. (A-21-37) (See section 4.2.3.)

• Based on National Transportation Safety Board data on turbulence-related Title 14 Code of Federal Regulations Part 121 accidents, include in the revisions to Advisory Circular 120-88A, "Preventing Injuries Caused by Turbulence," in Safety Recommendation A-21-42 the phases of flight and associated altitudes at which flight attendants should be secured in their seats during Part 121 air carrier operations, including in particular the descent phase of flight. (A 21 38) (See section 4.3.1.)

• Conduct a study of how aircraft accelerations vary along the length of the aircraft during turbulence encounters, including differences among aircraft types operated by Title 14 Code of Federal Regulations Part 121 air carriers, and publish the study findings. (A 21 39) (See section 4.3.2.)

• Conduct a study to determine the factors that affect caregivers' decisions about the use of child restraint systems (CRSs) when traveling on a Title 14 Code of Federal Regulations Part 121 air carrier airplane with children under the age of 2 and to understand the

challenges associated with using CRSs; publish the study findings. (A-21-40) (See section 4.3.3.)

• After the action in Safety Recommendation A-21-40 is completed, use the study findings to direct the Federal Aviation Administration's efforts to increase child restraint system usage. (A-21-41) (See section 4.3.3.)

• Revise Advisory Circular 120-88A, "Preventing Injuries Caused by Turbulence," to reflect current best practices and the findings of this research report, such as new turbulence forecasting and warning technologies; training methods; in-flight communications between pilots and flight attendants, procedures, and available information for predicting turbulence; and altitudes at which flight attendants should be secured in their seats. (A 21 42) (See section 4.4.)

In addition, the NTSB reiterates the following recommendations to the Federal Aviation Administration:

• Provide air traffic controllers with automated pilot weather report (PIREP) data-collection tools that incorporate design elements to prevent input errors, increase quantity, and improve the timeliness of PIREPs disseminated to the National Airspace System. (A 17 21) (See section 4.1.1.)

• Incorporate automation technology that captures data elements from air traffic controllers' displays, including aircraft type, time, location, and altitude, to automatically populate these data into a pilot weather report (PIREP)-collection and -dissemination tool that will enable controllers to enter the remaining PIREP elements and disseminate PIREPs through a common exchange model directly to the National Airspace System. (A-17-22) (See section 4.1.1.)

• Provide a reliable means of electronically accepting pilot weather reports directly from all users who are eligible to submit reports, and ensure that the system has the capacity to accept and make available all such reports to the National Airspace System. (A-17-26) (See section 4.1.1.)

In the same report, we also classified and reiterated one previously issued safety recommendation:

• Encourage industry safety efforts, such as the Commercial Aviation Safety Team and the General Aviation Joint Steering Committee, to identify, develop, and implement incentives for 14 Code of Federal Regulations Part 121, 135, and 91K operators and the general aviation community to freely share pilot weather reports (PIREPs), including braking action or runway condition reports filed as PIREPs, to the National Airspace System to enhance flight safety. (A-17-25, classified "Open—Unacceptable Response" in section 4.1.1)

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (Safety Recommendations A-21-25 through -42). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e mail us at the same address for instructions. Please do not submit both an electronic copy and a hard copy of the same response.

11/19/21	Addressee	Official Correspondence	68034
-From Steve Dickson, Administrator: The FAA is reviewing Title 14 CFR Part 121 and 91 requirements and associated guidance material that pertain to ADS-B. Our review will determine if updates to these requirements and/or current guidance material are necessary to address turbulence-related injuries.			
05/04/22	NTSB	Official Correspondence	68034
We note that you are reviewing Parts 121 and 91 requirements and associated guidance material that pertain to ADS-B to determine if updates are needed. We believe your planned review is a necessary first step to responding to these recommendations. Pending completion of your review and a detailed plan for responding to each of these recommendations, Safety Recommendations A-21-26 and -28 through -30 are classified OPEN-- ACCEPTABLE RESPONSE.			
02/09/23	NTSB	Official Correspondence	69062

We note that, although you agree that ADS-B Wx may be a positive update for aircraft flying in the National Airspace System (NAS), you cannot include ADS-B Wx in the NAS until it has been fully vetted for safe functional operation. We also note that you are working to address this issue. We would like to know what work needs to be completed before the FAA can fully support including ADS-B Wx in the NAS, and how the FAA plans to complete that work.

We have reviewed draft Technical Standard Order (TSO) C154d, "Universal Access Transceiver ADS-B Equipment Operating on the Radio Frequency of 978 Megahertz," and draft TSO-C166c, "Extended Squitter ADS-B and Traffic Information Service–Broadcast (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz." We note that the draft TSOs propose including ADS-B Wx as an optional capability. We point out, however, that to satisfy the intent of Safety Recommendation A-21-28, the updated ADS-B standards need to include ADS-B Wx as a required capability. We believe this change would increase the number of ADS B Wx equipped aircraft and the volume of turbulence observations available to all NAS stakeholders. Therefore, we encourage you address this concern in the final TSOs.

Pending our review of the published TSOs, which should require ADS-B Wx, the requested information, and completion of the recommended actions, Safety Recommendations A 21-28 through -30 remain classified OPEN-- ACCEPTABLE RESPONSE.

07/20/23	Addressee	Official Correspondence	70759

-From Polly Trottenberg, Acting Administrator: RTCA, Inc. (RTCA) incorporated Automatic Dependent Surveillance– Broadcast (ADS-B) weather capability as an optional capability in RTCA DO-260C, Minimum Operational Performance Standards (MOPS) for 1090 MHz Extended Squitter ADS-B and Traffic Information Services–Broadcast (TIS-B), published December 17, 2020. To address some non-weather-related backward compatibility issues, RTCA published change 1 to DO-260 on January 25, 2022. Technical Standard Order (TSO) C166c, Extended Squitter ADS-B and TIS-B Equipment Operating on the Radio Frequency of 1090 MHz, published March 10, 2023, invokes RTCA DO-260C and change 1 to DO-260C.

Additionally, the RTCA Special Committee 186, ADS-B, incorporated ADS-B weather as an optional capability into RTCA DO-282C, MOPS for Universal Access Transceiver (UAT) ADS-B, published June 23, 2022. On March 10, 2023, the FAA published TSO-C154d, UAT ADS-B Equipment Operating on the Radio Frequency of 978 MHz, to invoke DO-282C. Revised guidance in TSO-C166c and TSO-C154d are available at drs.faa.gov.

01/03/24	NTSB	Official Correspondence	70890

We note that, on March 10, 2023, you published Technical Standards Order (TSO) C154d, "Universal Access Transceiver ADS-B Equipment Operating on the Radio Frequency of 978 Megahertz," and TSO C166c, "Extended Squitter ADS-B and Traffic Information Service–Broadcast (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz." We also note that both TSOs include ADS-B weather (ADS-B Wx) as an optional capability. In addition, you are still reviewing Part 121 and 91 requirements and associated guidance material that pertain to ADS-B to determine if updates are needed.

We previously informed you that the intent of these recommendations is to increase the number of ADS-B Wx-equipped aircraft and the volume of turbulence observations that are available to all NAS stakeholders. To accomplish this, we continue to believe the ADS-B standards need to include ADS-B Wx as a required—not optional—capability. Therefore, we urge you to revise the TSOs to address this concern. In the meantime, pending our review of the revised TSOs and a requirement for the recommended aircraft to be retrofitted with ADS-B Wx-capable ADS-B equipment, Safety Recommendations A-21-28 and -29 are classified OPEN--UNACCEPTABLE RESPONSE.

Recommendation Report

3/19/2025 4:00:00 PM

Product/Notation Id	67354 /	**Accident Date:**	03/28/18	**Issue Date:**	09/07/21
City/State:	Washington, DC	**Accident #:**	DCA18SS003	**Most Wanted List:**	No

Turbulence-related accidents are the most common type of accident involving air carriers operating under Title 14 Code of Federal Regulations (CFR) Part 121. From 2009 through 2018, the National Transportation Safety Board (NTSB) found that turbulence-related accidents accounted for more than a third of all Part 121 accidents; most of these accidents resulted in one or more serious injuries but no aircraft damage. This NTSB safety research report examines the prevalence and risk factors of turbulence-related accidents in Part 121 air carrier operations; assesses the effectiveness of policies, programs, technologies, and other applicable safety countermeasures; and makes recommendations for improving turbulence avoidance and injury mitigation.

Recommendation # :		A-21-029	**Overall Status:**	Open - Unacceptable Response	CLASS II

TO THE FEDERAL AVIATION ADMINISTRATION: After the automatic dependent surveillance-broadcast (ADS-B) technical standard order is revised as recommended in Safety Recommendation A-21-28, require that aircraft flown in Title 14 Code of Federal Regulations Part 121 air carrier operations be retrofitted with automatic dependent surveillance-broadcast weather capable ADS-B equipment.

# of Addressees:	1			**Overall Date Closed:**	N/A
Addressee:	FAA		Open - Unacceptable Response	**Date Closed:**	N/A
09/07/21	NTSB	Transmittal Letter		67718	

The attached letter from the NTSB Chairman provides information about the NTSB's August 10, 2021, report Preventing Turbulence-Related Injuries in Air Carrier Operations Conducted Under Title 14 Code of Federal Regulations Part 121, NTSB/SS-21/01. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at http://www.ntsb.gov.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (for example, A-21-25 through -42; Reiterated Recommendations A-17-21 and -22, A-17-26; Classified and Reiterated Recommendation A-17-25). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply exceeds 20 megabytes, including attachments, please e mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

This letter provides information about the National Transportation Safety Board's (NTSB) August 10, 2021, report Preventing Turbulence-Related Injuries in Air Carrier Operations Conducted Under Title 14 Code of Federal Regulations Part 121, NTSB/SS-21/01. The details of this safety research and the resulting safety recommendations may be found in the attached report, which can also be accessed at http://www.ntsb.gov.

As a result of this research, we identified the following safety issues:

• Insufficient submission and dissemination of turbulence observations.
• A lack of shared awareness of turbulence risks.
• The need for mitigation of common turbulence-related injury circumstances.
• The need for updated turbulence guidance.

Accordingly, the NTSB makes the following safety recommendations to the Federal Aviation Administration. Additional information regarding these recommendations can be found in the noted sections of the report.

• Work with stakeholders to standardize the distribution of pilot weather reports (PIREPs) across and within air traffic control facilities to ensure they are disseminated to only those facilities and air traffic controller positions for which each PIREP applies. (A-21-25) (See section 4.1.1.)

• As a condition of enhanced weather information system approval, require Title 14 Code of Federal Regulations Part 121 air carriers to disseminate all turbulence observations to the National Airspace System as pilot weather reports, as well as reports of smooth ride conditions. (A-21-26) (See section 4.1.1.)

• Determine how to harmonize current and future eddy dissipation rate algorithm performance in operational environments and publish the results of this determination. (A 21-27) (See section 4.1.2.)

• Incorporate the automatic dependent surveillance-broadcast weather capability in the next version of the automatic dependent surveillance broadcast technical standard order. (A 21 28) (See section 4.1.2.)

• After the automatic dependent surveillance-broadcast (ADS-B) technical standard order is revised as recommended in Safety Recommendation A 21 28, require that aircraft flown in Title 14 Code of Federal Regulations Part 121 air carrier operations be retrofitted with automatic dependent surveillance broadcast weather capable ADS-B equipment. (A 21 29) (See section 4.1.2.)

• Require automatic dependent surveillance-broadcast weather (ADS-B Wx)-equipped aircraft to broadcast ADS-B Wx information when operating in airspace requiring automatic dependent surveillance-broadcast capability as defined by Title 14 Code of Federal Regulations 91.225. (A-21-30) (See section 4.1.2.)

• In collaboration with the National Weather Service, modify airmen's meteorological information (AIRMET) advisory issuing practices to include graphical AIRMET advisories with higher granularity, taking into account the effect it would have on all National Airspace System users. (A-21-31) (See section 4.2.1.)

• Distribute graphical airmen's meteorological information advisories, significant meteorological information advisories, and center weather advisories to air traffic controllers as controller-selectable layers on current and future controller radar displays in air route traffic control centers and terminal radar approach control facilities. (A 21 32) (See section 4.2.1.)

• Work with local safety councils to develop training on the use of the advisories developed for Safety Recommendation A-21-32. (A-21-33) (See section 4.2.1.)

• In collaboration with the National Weather Service, operationalize a turbulence nowcast, such as the graphical turbulence guidance nowcast. (A-21-34) (See section 4.2.2.)

• Develop air traffic control guidelines for use of the turbulence nowcast operationalized in accordance with Safety Recommendations A-21-34 and A-21-44. (A-21-35) (See section 4.2.2.)

• Incorporate total lightning and hail information as selectable layers on air traffic controller radar displays in air route traffic control centers and terminal radar approach control facilities. (A-21-36) (See section 4.2.3.)

• After the action in Safety Recommendation A-21-36 is completed, provide training to air traffic controllers on the use of the controller-selectable total lightning and hail information. (A-21-37) (See section 4.2.3.)

• Based on National Transportation Safety Board data on turbulence-related Title 14 Code of Federal Regulations Part 121 accidents, include in the revisions to Advisory Circular 120-88A, "Preventing Injuries Caused by Turbulence," in Safety Recommendation A-21-42 the phases of flight and associated altitudes at which flight attendants should be secured in their seats during Part 121 air carrier operations, including in particular the descent phase of flight. (A 21 38) (See section 4.3.1.)

• Conduct a study of how aircraft accelerations vary along the length of the aircraft during turbulence encounters, including differences among aircraft types operated by Title 14 Code of Federal Regulations Part 121 air carriers, and publish the study findings. (A 21 39) (See section 4.3.2.)

• Conduct a study to determine the factors that affect caregivers' decisions about the use of child restraint systems (CRSs) when traveling on a Title 14 Code of Federal Regulations Part 121 air carrier airplane with children under the age of 2 and to understand the challenges associated with using CRSs; publish the study findings. (A-21-40) (See section 4.3.3.)

• After the action in Safety Recommendation A-21-40 is completed, use the study findings to direct the Federal Aviation Administration's efforts to increase child restraint system usage. (A-21-41) (See section 4.3.3.)

• Revise Advisory Circular 120-88A, "Preventing Injuries Caused by Turbulence," to reflect current best practices and the findings of this research report, such as new turbulence forecasting and warning technologies; training methods; in-flight communications between pilots and flight attendants, procedures, and available information for predicting turbulence; and altitudes at which flight attendants should be secured in their seats. (A 21 42) (See section 4.4.)

In addition, the NTSB reiterates the following recommendations to the Federal Aviation Administration:

• Provide air traffic controllers with automated pilot weather report (PIREP) data-collection tools that incorporate design elements to prevent input errors, increase quantity, and improve the timeliness of PIREPs disseminated to the National Airspace System. (A 17 21) (See section 4.1.1.)

• Incorporate automation technology that captures data elements from air traffic controllers' displays, including aircraft type, time, location, and altitude, to automatically populate these data into a pilot weather report (PIREP)-collection and -dissemination tool that will enable controllers to enter the remaining PIREP elements and disseminate PIREPs through a common exchange model directly to the National Airspace System. (A-17-22) (See section 4.1.1.)

• Provide a reliable means of electronically accepting pilot weather reports directly from all users who are eligible to submit reports, and ensure that the system has the capacity to accept and make available all such reports to the National Airspace System. (A-17-26) (See section 4.1.1.)

In the same report, we also classified and reiterated one previously issued safety recommendation:

• Encourage industry safety efforts, such as the Commercial Aviation Safety Team and the General Aviation Joint Steering Committee, to identify, develop, and implement incentives for 14 Code of Federal Regulations Part 121, 135, and 91K operators and the general aviation community to freely share pilot weather reports (PIREPs), including braking action or runway condition reports filed as PIREPs, to the National Airspace System to enhance flight safety. (A-17-25, classified "Open—Unacceptable Response" in section 4.1.1)

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (Safety Recommendations A-21-25 through -42). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e mail us at the same address for instructions. Please do not submit both an electronic copy and a hard copy of the same response.

11/19/21	Addressee	Official Correspondence	68034
-From Steve Dickson, Administrator: The FAA is reviewing Title 14 CFR Part 121 and 91 requirements and associated guidance material that pertain to ADS-B. Our review will determine if updates to these requirements and/or current guidance material are necessary to address turbulence-related injuries.			
05/04/22	NTSB	Official Correspondence	68034
We note that you are reviewing Parts 121 and 91 requirements and associated guidance material that pertain to ADS-B to determine if updates are needed. We believe your planned review is a necessary first step to responding to these recommendations. Pending completion of your review and a detailed plan for responding to each of these recommendations, Safety Recommendations A-21-26 and -28 through -30 are classified OPEN-- ACCEPTABLE RESPONSE.			
02/09/23	NTSB	Official Correspondence	69062

We note that, although you agree that ADS-B Wx may be a positive update for aircraft flying in the National Airspace System (NAS), you cannot include ADS-B Wx in the NAS until it has been fully vetted for safe functional operation. We also note that you are working to address this issue. We would like to know what work needs to be completed before the FAA can fully support including ADS-B Wx in the NAS, and how the FAA plans to complete that work.

We have reviewed draft Technical Standard Order (TSO) C154d, "Universal Access Transceiver ADS-B Equipment Operating on the Radio Frequency of 978 Megahertz," and draft TSO-C166c, "Extended Squitter ADS-B and Traffic Information Service–Broadcast (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz." We note that the draft TSOs propose including ADS-B Wx as an optional capability. We point out, however, that to satisfy the intent of Safety Recommendation A-21-28, the updated ADS-B standards need to include ADS-B Wx as a required capability. We believe this change would increase the number of ADS B Wx equipped aircraft and the volume of turbulence observations available to all NAS stakeholders. Therefore, we encourage you address this concern in the final TSOs.

Pending our review of the published TSOs, which should require ADS-B Wx, the requested information, and completion of the recommended actions, Safety Recommendations A 21-28 through -30 remain classified OPEN-- ACCEPTABLE RESPONSE.

05/24/23	Addressee	Official Correspondence	70223

-From Billy Nolen, Acting Administrator: The Federal Aviation Administration (FAA) continues to internally review 14 CFR Parts 91 and 121 requirements and associated guidance material pertaining to automatic dependent surveillance-broadcast and aircraft turbulence and injury prevention to determine the best action plan. Due to competing priorities and resources, we require additional time for discussions with various internal and external stakeholders to determine if updates to these requirements and/or current guidance material are necessary to address turbulence-related injuries.

I will keep the Board informed of the FAA's progress on Safety Recommendations A-21-26, -29, -38, and -42, and anticipate providing an update by April 30, 2024.

01/03/24	NTSB	Official Correspondence	70890

We note that, on March 10, 2023, you published Technical Standards Order (TSO) C154d, "Universal Access Transceiver ADS-B Equipment Operating on the Radio Frequency of 978 Megahertz," and TSO C166c, "Extended Squitter ADS-B and Traffic Information Service–Broadcast (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz." We also note that both TSOs include ADS-B weather (ADS-B Wx) as an optional capability. In addition, you are still reviewing Part 121 and 91 requirements and associated guidance material that pertain to
ADS-B to determine if updates are needed.

We previously informed you that the intent of these recommendations is to increase the number of ADS-B Wx-equipped aircraft and the volume of turbulence observations that are available to all NAS stakeholders. To accomplish this, we continue to believe the ADS-B standards need to include ADS-B Wx as a required—not optional—capability. Therefore, we urge you to revise the TSOs to address this concern. In the meantime, pending our review of the revised TSOs and a requirement for the recommended aircraft to be retrofitted with ADS-B Wx-capable ADS-B equipment, Safety Recommendations A-21-28 and -29 are classified OPEN--UNACCEPTABLE RESPONSE.

01/08/25	Addressee	Official Correspondence	74128

-From Michael G. Whitaker, Administrator: The FAA shares the Board's concern as it relates to ensuring accurate and timely turbulence information is available to pilots operating in the National Airspace System (NAS). The FAA intends to satisfy this recommendation by continuing to sponsor studies regarding eddy dissipation rates, Graphical Turbulence Guidance, and GTG-Nowcast, and by making associated products available to pilots across the NAS.

The Board's recommendation to require Part 121 air carrier operations be retrofitted with weather capable ADS-B equipment would necessitate rulemaking. However, the FAA's ongoing collaboration with the National Center for Atmospheric Research and our ability to make graphical turbulence available to pilots is such that the FAA does not intend to engage in any rulemaking in response to this safety recommendation.

I believe the FAA has effectively addressed Safety Recommendation A-21-29 and plan no further action on this safety recommendation. I will keep the Board informed of the FAA's progress on Safety Recommendations A-21-26, -38, and -42, and anticipate providing an update by December 1, 2025.

Recommendation Report

3/19/2025 4:00:00 PM

Product/Notation Id	67354 /	**Accident Date:**	03/28/18	**Issue Date:**	09/07/21
City/State:	Washington, DC	**Accident #:**	DCA18SS003	**Most Wanted List:**	No

Turbulence-related accidents are the most common type of accident involving air carriers operating under Title 14 Code of Federal Regulations (CFR) Part 121. From 2009 through 2018, the National Transportation Safety Board (NTSB) found that turbulence-related accidents accounted for more than a third of all Part 121 accidents; most of these accidents resulted in one or more serious injuries but no aircraft damage. This NTSB safety research report examines the prevalence and risk factors of turbulence-related accidents in Part 121 air carrier operations; assesses the effectiveness of policies, programs, technologies, and other applicable safety countermeasures; and makes recommendations for improving turbulence avoidance and injury mitigation.

Recommendation # :		A-21-030	**Overall Status:**	Open - Acceptable Response	CLASS II

TO THE FEDERAL AVIATION ADMINISTRATION: Require automatic dependent surveillance-broadcast weather (ADS-B Wx)-equipped aircraft to broadcast ADS-B Wx information when operating in airspace requiring automatic dependent surveillance-broadcast capability as defined by Title 14 Code of Federal Regulations 91.225.

# of Addressees:	1			**Overall Date Closed:**	N/A
Addressee:	FAA		Open - Acceptable Response	**Date Closed:**	N/A
09/07/21	NTSB	Transmittal Letter		67718	

The attached letter from the NTSB Chairman provides information about the NTSB's August 10, 2021, report Preventing Turbulence-Related Injuries in Air Carrier Operations Conducted Under Title 14 Code of Federal Regulations Part 121, NTSB/SS-21/01. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at http://www.ntsb.gov.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (for example, A-21-25 through -42; Reiterated Recommendations A-17-21 and -22, A-17-26; Classified and Reiterated Recommendation A-17-25). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply exceeds 20 megabytes, including attachments, please e mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

This letter provides information about the National Transportation Safety Board's (NTSB) August 10, 2021, report Preventing Turbulence-Related Injuries in Air Carrier Operations Conducted Under Title 14 Code of Federal Regulations Part 121, NTSB/SS-21/01. The details of this safety research and the resulting safety recommendations may be found in the attached report, which can also be accessed at http://www.ntsb.gov.

As a result of this research, we identified the following safety issues:

• Insufficient submission and dissemination of turbulence observations.
• A lack of shared awareness of turbulence risks.
• The need for mitigation of common turbulence-related injury circumstances.
• The need for updated turbulence guidance.

Accordingly, the NTSB makes the following safety recommendations to the Federal Aviation Administration. Additional information regarding these recommendations can be found in the noted sections of the report.

• Work with stakeholders to standardize the distribution of pilot weather reports (PIREPs) across and within air traffic control facilities to ensure they are disseminated to only those facilities and air traffic controller positions for which each PIREP applies. (A-21-25)

(See section 4.1.1.)

• As a condition of enhanced weather information system approval, require Title 14 Code of Federal Regulations Part 121 air carriers to disseminate all turbulence observations to the National Airspace System as pilot weather reports, as well as reports of smooth ride conditions. (A-21-26) (See section 4.1.1.)

• Determine how to harmonize current and future eddy dissipation rate algorithm performance in operational environments and publish the results of this determination. (A 21-27) (See section 4.1.2.)

• Incorporate the automatic dependent surveillance-broadcast weather capability in the next version of the automatic dependent surveillance broadcast technical standard order. (A 21 28) (See section 4.1.2.)

• After the automatic dependent surveillance-broadcast (ADS-B) technical standard order is revised as recommended in Safety Recommendation A 21 28, require that aircraft flown in Title 14 Code of Federal Regulations Part 121 air carrier operations be retrofitted with automatic dependent surveillance broadcast weather capable ADS-B equipment. (A 21 29) (See section 4.1.2.)

• Require automatic dependent surveillance-broadcast weather (ADS-B Wx)-equipped aircraft to broadcast ADS-B Wx information when operating in airspace requiring automatic dependent surveillance-broadcast capability as defined by Title 14 Code of Federal Regulations 91.225. (A-21-30) (See section 4.1.2.)

• In collaboration with the National Weather Service, modify airmen's meteorological information (AIRMET) advisory issuing practices to include graphical AIRMET advisories with higher granularity, taking into account the effect it would have on all National Airspace System users. (A-21-31) (See section 4.2.1.)

• Distribute graphical airmen's meteorological information advisories, significant meteorological information advisories, and center weather advisories to air traffic controllers as controller-selectable layers on current and future controller radar displays in air route traffic control centers and terminal radar approach control facilities. (A 21 32) (See section 4.2.1.)

• Work with local safety councils to develop training on the use of the advisories developed for Safety Recommendation A-21-32. (A-21-33) (See section 4.2.1.)

• In collaboration with the National Weather Service, operationalize a turbulence nowcast, such as the graphical turbulence guidance nowcast. (A-21-34) (See section 4.2.2.)

• Develop air traffic control guidelines for use of the turbulence nowcast operationalized in accordance with Safety Recommendations A-21-34 and A-21-44. (A-21-35) (See section 4.2.2.)

• Incorporate total lightning and hail information as selectable layers on air traffic controller radar displays in air route traffic control centers and terminal radar approach control facilities. (A-21-36) (See section 4.2.3.)

• After the action in Safety Recommendation A-21-36 is completed, provide training to air traffic controllers on the use of the controller-selectable total lightning and hail information. (A-21-37) (See section 4.2.3.)

• Based on National Transportation Safety Board data on turbulence-related Title 14 Code of Federal Regulations Part 121 accidents, include in the revisions to Advisory Circular 120-88A, "Preventing Injuries Caused by Turbulence," in Safety Recommendation A-21-42 the phases of flight and associated altitudes at which flight attendants should be secured in their seats during Part 121 air carrier operations, including in particular the descent phase of flight. (A 21 38) (See section 4.3.1.)

• Conduct a study of how aircraft accelerations vary along the length of the aircraft during turbulence encounters, including differences among aircraft types operated by Title 14 Code of Federal Regulations Part 121 air carriers, and publish the study findings. (A 21 39) (See section 4.3.2.)

• Conduct a study to determine the factors that affect caregivers' decisions about the use of child restraint systems (CRSs) when traveling on a Title 14 Code of Federal Regulations Part 121 air carrier airplane with children under the age of 2 and to understand the

challenges associated with using CRSs; publish the study findings. (A-21-40) (See section 4.3.3.)

• After the action in Safety Recommendation A-21-40 is completed, use the study findings to direct the Federal Aviation Administration's efforts to increase child restraint system usage. (A-21-41) (See section 4.3.3.)

• Revise Advisory Circular 120-88A, "Preventing Injuries Caused by Turbulence," to reflect current best practices and the findings of this research report, such as new turbulence forecasting and warning technologies; training methods; in-flight communications between pilots and flight attendants, procedures, and available information for predicting turbulence; and altitudes at which flight attendants should be secured in their seats. (A 21 42) (See section 4.4.)

In addition, the NTSB reiterates the following recommendations to the Federal Aviation Administration:

• Provide air traffic controllers with automated pilot weather report (PIREP) data-collection tools that incorporate design elements to prevent input errors, increase quantity, and improve the timeliness of PIREPs disseminated to the National Airspace System. (A 17 21) (See section 4.1.1.)

• Incorporate automation technology that captures data elements from air traffic controllers' displays, including aircraft type, time, location, and altitude, to automatically populate these data into a pilot weather report (PIREP)-collection and -dissemination tool that will enable controllers to enter the remaining PIREP elements and disseminate PIREPs through a common exchange model directly to the National Airspace System. (A-17-22) (See section 4.1.1.)

• Provide a reliable means of electronically accepting pilot weather reports directly from all users who are eligible to submit reports, and ensure that the system has the capacity to accept and make available all such reports to the National Airspace System. (A-17-26) (See section 4.1.1.)

In the same report, we also classified and reiterated one previously issued safety recommendation:

• Encourage industry safety efforts, such as the Commercial Aviation Safety Team and the General Aviation Joint Steering Committee, to identify, develop, and implement incentives for 14 Code of Federal Regulations Part 121, 135, and 91K operators and the general aviation community to freely share pilot weather reports (PIREPs), including braking action or runway condition reports filed as PIREPs, to the National Airspace System to enhance flight safety. (A-17-25, classified "Open—Unacceptable Response" in section 4.1.1)

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (Safety Recommendations A-21-25 through -42). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e mail us at the same address for instructions. Please do not submit both an electronic copy and a hard copy of the same response.

11/19/21	Addressee	Official Correspondence	68034

-From Steve Dickson, Administrator: The FAA is reviewing Title 14 CFR Part 121 and 91 requirements and associated guidance material that pertain to ADS-B. Our review will determine if updates to these requirements and/or current guidance material are necessary to address turbulence-related injuries.

05/04/22	NTSB	Official Correspondence	68034

We note that you are reviewing Parts 121 and 91 requirements and associated guidance material that pertain to ADS-B to determine if updates are needed. We believe your planned review is a necessary first step to responding to these recommendations. Pending completion of your review and a detailed plan for responding to each of these recommendations, Safety Recommendations A-21-26 and -28 through -30 are classified OPEN-- ACCEPTABLE RESPONSE.

09/21/22	Addressee	Official Correspondence	69062

From Billy Nolen, Acting Administrator, Federal Aviation Administration: The Federal Aviation Administration (FAA) reviewed the Board's safety research report, "Preventing Turbulence-Related Injuries in Air Carrier Operations Conducted Under Title 14 Code of Federal Regulations Part 121." We agree with the statement on page 41 of the report that "ADS-B Wx is a proposed addition to ADS-B…[and] the RTCA and the European Organization for Civil Aviation Equipment have developed the requirements for ADS-B Wx, which are incorporated into version 3 of the ADS-B minimum operational performance standards as optional capabilities (RTCA 2020)."

The FAA also agrees that ADS-B Wx may be a positive update for aircraft flying in the National Airspace System (NAS). However, since ADS-B Wx is not fully vetted for safe functional operation, the FAA is unable to fully support the inclusion of ADS-B Wx in the NAS at this time. We will update the Board on the potential availability of ADS-B Wx to all users of the NAS.

I will keep the Board informed of the FAA's progress on Safety Recommendation A-21-30 and anticipate providing an update by August 30, 2023.

02/09/23	NTSB	Official Correspondence	69062

We note that, although you agree that ADS-B Wx may be a positive update for aircraft flying in the National Airspace System (NAS), you cannot include ADS-B Wx in the NAS until it has been fully vetted for safe functional operation. We also note that you are working to address this issue. We would like to know what work needs to be completed before the FAA can fully support including ADS-B Wx in the NAS, and how the FAA plans to complete that work.

We have reviewed draft Technical Standard Order (TSO) C154d, "Universal Access Transceiver ADS-B Equipment Operating on the Radio Frequency of 978 Megahertz," and draft TSO-C166c, "Extended Squitter ADS-B and Traffic Information Service–Broadcast (TIS-B) Equipment Operating on the Radio Frequency of 1090 Megahertz." We note that the draft TSOs propose including ADS-B Wx as an optional capability. We point out, however, that to satisfy the intent of Safety Recommendation A-21-28, the updated ADS-B standards need to include ADS-B Wx as a required capability. We believe this change would increase the number of ADS B Wx equipped aircraft and the volume of turbulence observations available to all NAS stakeholders. Therefore, we encourage you address this concern in the final TSOs.

Pending our review of the published TSOs, which should require ADS-B Wx, the requested information, and completion of the recommended actions, Safety Recommendations A 21-28 through -30 remain classified OPEN– ACCEPTABLE RESPONSE.

07/10/23	Addressee	Official Correspondence	70705

-From Polly Trottenberg, Acting Administrator: As stated in our letter dated September 21, 2022, the Federal Aviation Administration (FAA) agrees that ADS-B Wx may be a positive update for aircraft flying in the National Airspace System (NAS). However, ADS-B Wx is not fully vetted for safe, functional operation at this time.

To further assess ADSB Wx, the FAA will:

1. Perform an offline benefits analysis demonstration of version 3 ADS-B Wx planned for Fiscal Year (FY) 2023;

2. Perform an online pseudo-operational demonstration planned for FY24; and

3. Continue to develop a transition plan to transfer the algorithms from research to operational use.

Once available to all users of the NAS, ADS-B Wx has the benefit of being free to the aircraft operator because this information is already sent through ADS-B. In addition, each aircraft provides the data output that will allow for more turbulence observations from more areas.

I will keep the Board informed of the FAA's progress on Safety Recommendation A-21-30 and anticipate providing an update by May 31, 2024.

01/03/24	NTSB	Official Correspondence	70890

We note that, to further assess ADS-B Wx, you are performing an offline benefits analysis demonstration of version 3 ADS-B Wx and an online pseudo-operational demonstration. We also note that you are developing a plan to transfer the algorithms from research to operational use.

We believe your planned actions for vetting ADS-B Wx for safe, functional operation in the NAS are responsive to this recommendation. Pending completion of these efforts and the recommended requirement, Safety Recommendation A-21-30 remains classified OPEN-- ACCEPTABLE RESPONSE.

02/11/25	Addressee	Official Correspondence	74295

-From Christopher J. Rocheleau, Acting Administrator: The Federal Aviation Administration (FAA) agrees with the Board that automatic dependent surveillance-broadcast weather (ADS-B Wx) may be a positive update for aircraft flying in the National Airspace System (NAS); however, ADS-B Wx is not yet fully vetted for safe, functional operation at this time. Notable progress to operationalize this technology is outlined below.

To reduce turbulence injuries, the FAA continues to develop algorithms to produce Eddy Dissipation Rate turbulence information from the vertical rate data in downlinked ADS-B reports. Using recorded data, an offline demonstration to assess the benefits of computing this turbulence information into the Graphical Turbulence Guidance-Nowcast (GTG-N) product was successfully completed. Recognizing the limitations of the demonstration, which included limited data runs and no updates to GTG-N, the results indicated that the ADS-B VR turbulence information improved the accuracy of GTG-N without negative effects. We plan to perform additional offline data runs with GTG-N in the coming year to increase confidence in the results of the offline demonstration.

The FAA is planning an online demonstration with the objective of identifying any issues with the algorithms operating in a pseudo-operational configuration. If successful, the demonstration will identify a potential path to transition the algorithms into operational use.

The FAA also continues to support RTCA's Special Committee 186, Automatic Dependent Surveillance-Broadcast (ADS-B), efforts to correlate the various ADS-B techniques for reporting turbulence observations to enable sharing of the turbulence observations with accurate understanding. The RTCA Committee was provided a briefing on the status of the ADS-B VR algorithms development along with the results of the offline demonstration to ensure that the standard being developed accounts for the use of ADS-B VR.

The FAA anticipates providing an update to Safety Recommendation A-21-30 by June 30, 2025.

03/03/25	NTSB	Staff-Level Communication	74295

On February 11, 2025, FAA Acting Administrator Christopher J. Rocheleau informed us that the agency is continuing the work described in its previous letter regarding Safety Recommendation A-21-30. We look forward to receiving your next update.

Recommendation Report

3/19/2025 4:00:00 PM

Product/Notation Id	68241 /	**Accident Date:**	12/26/19	**Issue Date:**	05/26/22
City/State:	Lihue, HI	**Accident #:**	ANC20MA010	**Most Wanted List:**	No

This report discusses the December 26, 2019, accident involving a seven-seat helicopter operated by Safari Aviation Inc. as a commercial air tour flight that encountered instrument meteorological conditions and collided into terrain in a remote, wooded area near Kekaha, Hawaii, on the island of Kauai. The pilot and the six passengers were fatally injured, and the helicopter was destroyed. Safety issues identified in this report include limited ability of existing infrastructure to fully support some aviation safety-related functions needed for the safe operation of low-flying air tour flights, resulting in air tour pilots having to rely on their own in-flight visual weather assessments; absence of safety assurance processes to guide pilot decision-making; and ineffective monitoring and oversight of Hawaii air tour operators by the Federal Aviation Administration (FAA). As a result of this investigation, the National Transportation Safety Board (NTSB) makes eight new safety recommendations to the FAA, one new safety recommendation to the Vertical Aviation Safety Team, and one new safety recommendation to tour flight operators. NTSB also reiterates nine previously issued recommendations and two previously issued classified recommendations to the FAA.

Recommendation # :		A-22-012	**Overall Status:**	Open - Acceptable Response	CLASS II

TO THE FEDERAL AVIATION ADMINISTRATION: Implement automatic dependent surveillance-broadcast (ADS-B) infrastructure improvements in Hawaii, such as additional ADS-B ground stations, that provide adequate coverage to enable real-time flight tracking and traffic advisory services for ADS-B Out- and In-equipped, low-flying air tour aircraft throughout their entire tour routes.

# of Addressees:	1			**Overall Date Closed:**	N/A
Addressee:	FAA		Open - Acceptable Response	**Date Closed:**	N/A
05/26/22	NTSB	Transmittal Letter		68722	

The attached letter from the NTSB Chair provides information about the NTSB's May 10, 2022, report, Collision into Terrain, Safari Aviation Inc., Airbus AS350 B2, N985SA, Kekaha, Hawaii, December 26, 2019, NTSB AIR-22-05. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at http://www.ntsb.gov.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (for example, new Safety Recommendations A-22-11 through -18, Reiterated Recommendations A 13 13, A-13-25, A-13-27, A-16-34 through -36, A 21 5, A-21-6, and A-21-15)

We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply exceeds 20 megabytes, including attachments, please e mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

This letter provides information about the National Transportation Safety Board's (NTSB) May 10, 2022, report, Collision into Terrain, Safari Aviation Inc., Airbus AS350 B2, N985SA, Kekaha, Hawaii, December 26, 2019, NTSB AIR-22-05. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at http://www.ntsb.gov.
As a result of this investigation, we identified the following safety issues:
• Aviation safety infrastructure limitations in Hawaii, including the need for aviation weather cameras, improved air-to-ground radio communications, and improved automatic dependent surveillance-broadcast (ADS-B) capabilities to enable flight tracking and other safety services for low-flying air tour flights.

• Lack of effective cue-based weather training for air tour pilots in Hawaii.

• Need for trained company flight support personnel with operational control authority to support pilots' en route, weather-related decision making.

• Need for safety management systems and flight data monitoring programs for Part 135 operators and the incorporation of recorded onboard videos and ADS B flight tracking data into safety assurance reviews.

• Need for improved Federal Aviation Administration (FAA) surveillance of air tour operations in Hawaii.

• Value of crash-resistant flight recorder systems in providing information critical for enabling the identification of the most effective measures to prevent similar accidents.
• Emerging technologies to help prevent accidents resulting from inadvertent encounters with instrument meteorological conditions, including helicopter safety technologies and simulation devices used in pilot training.
Accordingly, the NTSB makes the following safety recommendations to the FAA. Additional information regarding these recommendations can be found in the noted sections of the report.

• Install the necessary infrastructure in Hawaii to enable continuous radio communication between the pilots of low-flying tour flights and ground support personnel, such as flight service station specialists and company flight support personnel, along the most heavily trafficked air tour routes. (A-22-11) (See section 2.4.2.1)

• Implement automatic dependent surveillance-broadcast (ADS-B) infrastructure improvements in Hawaii, such as additional ADS B ground stations, that provide adequate coverage to enable real-time flight tracking and traffic advisory services for ADS-B Out- and In-equipped, low-flying air tour aircraft throughout their entire tour routes. (A-22-12) (See section 2.4.2.2)

• As an interim measure until completion of the action to satisfy Safety Recommendation A 21-15 [previously issued on May 13, 2021], require Hawaii air tour operators to install Automatic Dependent Surveillance-Broadcast Out equipment in their aircraft to enable real time flight position tracking. (A-22-13) (See section 2.4.2.2)

• Require air tour operators to have flight support personnel who are trained to exercise operational control authority, participate in preflight risk analysis, provide pilots with weather briefings, monitor the progress of the flights, and participate in two-way communications with pilots to alert them of any weather hazards. (A-22-14) (See section 2.5.1)

• Develop guidance for small operators for scaling a safety management system that includes methods and techniques for implementation and specific examples applicable to several operational sectors, including air tours. (A 22 15) (See section 2.5.2)

• Issue a safety alert for operators to encourage air tour operators to establish safety assurance processes to routinely review recorded onboard videos and automatic dependent surveillance-broadcast flight tracking data, ideally as part of a safety management system with an integrated flight data monitoring program, for the purpose of identifying and addressing risky trends in weather related operating practices, such as encounters or near encounters with instrument-meteorological-conditions-related hazards. (A-22-16) (See section 2.5.4)

• Improve the surveillance of air tour operations in Hawaii through the use of technologies and innovative approaches, including but not limited to comparing automatic dependent surveillance broadcast flight position data from air tour flights with weather camera imagery for the route and periodically reviewing onboard video recordings, to detect and correct operating practices that may lead to unacceptable weather-related risky behavior. (A 22 17) (See section 2.6)

• Issue and periodically update a special airworthiness information bulletin that lists newly manufactured helicopters that are equipped with features likely to reduce accidents resulting from inadvertent encounters with instrument meteorological conditions, describes retrofit options for helicopters that do not have such equipment, and encourages the voluntary integration of these safety features. (A-22-18) (See section 2.8.1)

In addition, the NTSB reiterates the following recommendations to the FAA:

• Require all existing turbine-powered, nonexperimental, nonrestricted-category aircraft that are not equipped with a flight data recorder or cockpit voice recorder and are operating under 14 Code of Federal Regulations Parts 91, 121, or 135 to be retrofitted with a crash-resistant flight recorder system. The crash resistant flight recorder system should record cockpit audio and images with a view

of the cockpit environment to include as much of the outside view as possible, and parametric data per aircraft and system installation, all as specified in Technical Standard Order C197, "Information Collection and Monitoring Systems." (A-13-13) (See section 2.7)
• Initiate an aviation weather camera program in Hawaii that includes the installation and maintenance of aviation weather cameras at critical locations in Hawaii. Establish public access to these aviation weather cameras' real-time imagery. (A-13-25) (See section 2.4.1)
• Equip flight service station specialists responsible for Hawaii and the continental United States with the technical capabilities and training to provide verbal preflight and en route briefings using aviation weather camera imagery. (A-13-27) (See section 2.4.1)
• Require all 14 Code of Federal Regulations Part 135 operators to install flight data recording devices capable of supporting a flight data monitoring program. (A-16-34) (See section 2.5.3)
• After the action in Safety Recommendation A-16-34 is completed, require all 14 Code of Federal Regulations Part 135 operators to establish a structured flight data monitoring program that reviews all available data sources to identify deviations from established norms and procedures and other potential safety issues. (A 16 35) (See section 2.5.3)
• Require all 14 Code of Federal Regulations Part 135 operators to establish safety management system programs. (A-16-36) (See section 2.5.2)
• Identify high-traffic air tour areas and require, through a special federal aviation regulation or other means, that Title 14 Code of Federal Regulations Parts 91 and 135 air tour operators that operate within those areas be equipped with an Automatic Dependent Surveillance Broadcast Out- and In-supported traffic advisory system that 1) includes both visual and aural alerts, 2) is driven by an algorithm designed to minimize nuisance alerts, and 3) is operational during all flight operations. (A-21-15) (See section 2.4.2.2)
• Require the use of appropriate simulation devices during initial and recurrent pilot training for Title 14 Code of Federal Regulations Part 135 helicopter operations to provide scenario-based training that addresses the decision-making, skills, and procedures needed to recognize and respond to changing weather conditions in flight, identify and apply mitigation strategies for avoiding adverse weather, practice the transition to the use of flight instruments to reduce the risk of spatial disorientation, and maintain awareness of a variety of influences that can adversely affect pilot decision-making. (A 21 5) (See section 2.8.2)
• Convene a multidisciplinary panel of aircraft performance, human factors, and aircraft operations specialists to evaluate spatial disorientation simulation technologies to determine which applications are most effective for training pilots to recognize the onset of spatial disorientation and successfully mitigate it, and make public a report on the committee's findings. (A-21-6) (See section 2.8.2)
In the same report, we also classified and reiterated two previously issued safety recommendations:
• In cooperation with Hawaii commercial air tour operators, aviation psychologists, and meteorologists, among others, develop a cue-based training program for commercial air tour pilots in Hawaii that specifically addresses hazardous aspects of local weather phenomena and in-flight decision-making. (A 07-18, classified "Open—Unacceptable Response" in section 2.3.2)
• Once a cue-based training program that specifically addresses hazardous aspects of local weather phenomena and weather-related, decision-making issues is developed (as requested in Safety Recommendation A-07-18), require all commercial air tour operators in Hawaii to provide this training to newly hired pilots. (A-07-19, classified "Open—Unacceptable Response" in section 2.3.2)

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (new Safety Recommendations A-22 -11 through -18, Reiterated Recommendations A 13 13, A-13-25, A-13-27, A-16-34 through -36, A 21 5, A-21-6, and A-21-15), and Classified and Reiterated Recommendations (A 07 18 and -19). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

08/03/22	Addressee	Official Correspondence	68883

-From Billy Nolen, Acting Administrator: The Federal Aviation Administration (FAA) will begin assessing the feasibility of installing the infrastructure necessary to provide continuous radio communication between low-flying tour flights and ground support personnel. The FAA will also evaluate expanding ADS-B coverage along the most heavily trafficked air tour routes.

03/30/23	NTSB	Official Correspondence	68883

We note that you plan to assess the feasibility of installing the necessary infrastructure for providing continuous radio communication between low-flying tour flights and ground support personnel and of expanding ADS-B coverage along the most heavily trafficked air tour routes. Pending our review of your findings and a plan for completing the recommended actions, Safety Recommendations A-22-11 and -12 are classified OPEN-- ACCEPTABLE RESPONSE.

08/31/23	Addressee	Official Correspondence	70930

-From Kathryn B. Thomson, Deputy Administrator: The FAA currently lacks the funding and scope authorization to install the infrastructure necessary in the Baseline Services Future Segments (BSFS) program. The FAA created the BSFS program to expand ADS-B coverage along the most heavily trafficked air tour routes in Hawaii and throughout the nation. We are considering including these requirements, which complement the six above-mentioned sites chosen by the air/ground communications team, in the BSFS Phase 2 final investment decision, which the FAA anticipates approving in 2025.

I will keep the Board informed of the FAA's progress on Safety Recommendations A-22-11 and -12 and anticipate providing an update by August 31, 2024.

07/03/24	NTSB	Official Correspondence	70936

We note that you did not have the funding or authorization to include the recommended infrastructure improvements in the Baseline Services Future Segments (BSFS) program, which was created to expand ADS-B coverage along the most heavily trafficked air tour routes in Hawaii and throughout the nation. However, you are considering including them in the BSFS Phase 2 final investment decision, which you expect to be approved in 2025.

Pending confirmation from you that these improvements have been included in BSFS Phase 2, and completion of the recommended action, Safety Recommendation A-22-12 remains classified OPEN--ACCEPTABLE RESPONSE.

Recommendation Report

3/19/2025 4:00:00 PM

Product/Notation Id	68241 /	**Accident Date:**	12/26/19	**Issue Date:**	05/26/22
City/State:	Lihue, HI	**Accident #:**	ANC20MA010	**Most Wanted List:**	No

This report discusses the December 26, 2019, accident involving a seven-seat helicopter operated by Safari Aviation Inc. as a commercial air tour flight that encountered instrument meteorological conditions and collided into terrain in a remote, wooded area near Kekaha, Hawaii, on the island of Kauai. The pilot and the six passengers were fatally injured, and the helicopter was destroyed. Safety issues identified in this report include limited ability of existing infrastructure to fully support some aviation safety-related functions needed for the safe operation of low-flying air tour flights, resulting in air tour pilots having to rely on their own in-flight visual weather assessments; absence of safety assurance processes to guide pilot decision-making; and ineffective monitoring and oversight of Hawaii air tour operators by the Federal Aviation Administration (FAA). As a result of this investigation, the National Transportation Safety Board (NTSB) makes eight new safety recommendations to the FAA, one new safety recommendation to the Vertical Aviation Safety Team, and one new safety recommendation to tour flight operators. NTSB also reiterates nine previously issued recommendations and two previously issued classified recommendations to the FAA.

Recommendation # :		A-22-013	**Overall Status:**	Open - Acceptable Response	CLASS II

TO THE FEDERAL AVIATION ADMINISTRATION: As an interim measure until completion of the action to satisfy Safety Recommendation A-21-15, require Hawaii air tour operators to install Automatic Dependent Surveillance-Broadcast Out equipment in their aircraft to enable real-time flight position tracking.

# of Addressees:	1			**Overall Date Closed:**	N/A
Addressee:	FAA		Open - Acceptable Response	**Date Closed:**	N/A
05/26/22	NTSB	Transmittal Letter		68722	

The attached letter from the NTSB Chair provides information about the NTSB's May 10, 2022, report, Collision into Terrain, Safari Aviation Inc., Airbus AS350 B2, N985SA, Kekaha, Hawaii, December 26, 2019, NTSB AIR-22-05. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at http://www.ntsb.gov.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (for example, new Safety Recommendations A-22-11 through -18, Reiterated Recommendations A 13 13, A-13-25, A-13-27, A-16-34 through -36, A 21 5, A-21-6, and A-21-15)

We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply exceeds 20 megabytes, including attachments, please e mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

This letter provides information about the National Transportation Safety Board's (NTSB) May 10, 2022, report, Collision into Terrain, Safari Aviation Inc., Airbus AS350 B2, N985SA, Kekaha, Hawaii, December 26, 2019, NTSB AIR-22-05. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at http://www.ntsb.gov.
As a result of this investigation, we identified the following safety issues:
• Aviation safety infrastructure limitations in Hawaii, including the need for aviation weather cameras, improved air-to-ground radio communications, and improved automatic dependent surveillance-broadcast (ADS-B) capabilities to enable flight tracking and other safety services for low-flying air tour flights.

• Lack of effective cue-based weather training for air tour pilots in Hawaii.

• Need for trained company flight support personnel with operational control authority to support pilots' en route, weather-related decision making.

• Need for safety management systems and flight data monitoring programs for Part 135 operators and the incorporation of recorded onboard videos and ADS B flight tracking data into safety assurance reviews.

• Need for improved Federal Aviation Administration (FAA) surveillance of air tour operations in Hawaii.

• Value of crash-resistant flight recorder systems in providing information critical for enabling the identification of the most effective measures to prevent similar accidents.
• Emerging technologies to help prevent accidents resulting from inadvertent encounters with instrument meteorological conditions, including helicopter safety technologies and simulation devices used in pilot training.
Accordingly, the NTSB makes the following safety recommendations to the FAA. Additional information regarding these recommendations can be found in the noted sections of the report.

• Install the necessary infrastructure in Hawaii to enable continuous radio communication between the pilots of low-flying tour flights and ground support personnel, such as flight service station specialists and company flight support personnel, along the most heavily trafficked air tour routes. (A-22-11) (See section 2.4.2.1)

• Implement automatic dependent surveillance-broadcast (ADS-B) infrastructure improvements in Hawaii, such as additional ADS B ground stations, that provide adequate coverage to enable real-time flight tracking and traffic advisory services for ADS-B Out- and In-equipped, low-flying air tour aircraft throughout their entire tour routes. (A-22-12) (See section 2.4.2.2)

• As an interim measure until completion of the action to satisfy Safety Recommendation A 21-15 [previously issued on May 13, 2021], require Hawaii air tour operators to install Automatic Dependent Surveillance-Broadcast Out equipment in their aircraft to enable real time flight position tracking. (A-22-13) (See section 2.4.2.2)

• Require air tour operators to have flight support personnel who are trained to exercise operational control authority, participate in preflight risk analysis, provide pilots with weather briefings, monitor the progress of the flights, and participate in two-way communications with pilots to alert them of any weather hazards. (A-22-14) (See section 2.5.1)

• Develop guidance for small operators for scaling a safety management system that includes methods and techniques for implementation and specific examples applicable to several operational sectors, including air tours. (A 22 15) (See section 2.5.2)

• Issue a safety alert for operators to encourage air tour operators to establish safety assurance processes to routinely review recorded onboard videos and automatic dependent surveillance-broadcast flight tracking data, ideally as part of a safety management system with an integrated flight data monitoring program, for the purpose of identifying and addressing risky trends in weather related operating practices, such as encounters or near encounters with instrument-meteorological-conditions-related hazards. (A-22-16) (See section 2.5.4)

• Improve the surveillance of air tour operations in Hawaii through the use of technologies and innovative approaches, including but not limited to comparing automatic dependent surveillance broadcast flight position data from air tour flights with weather camera imagery for the route and periodically reviewing onboard video recordings, to detect and correct operating practices that may lead to unacceptable weather-related risky behavior. (A 22 17) (See section 2.6)

• Issue and periodically update a special airworthiness information bulletin that lists newly manufactured helicopters that are equipped with features likely to reduce accidents resulting from inadvertent encounters with instrument meteorological conditions, describes retrofit options for helicopters that do not have such equipment, and encourages the voluntary integration of these safety features. (A-22-18) (See section 2.8.1)

In addition, the NTSB reiterates the following recommendations to the FAA:

• Require all existing turbine-powered, nonexperimental, nonrestricted-category aircraft that are not equipped with a flight data recorder or cockpit voice recorder and are operating under 14 Code of Federal Regulations Parts 91, 121, or 135 to be retrofitted with a crash-resistant flight recorder system. The crash resistant flight recorder system should record cockpit audio and images with a view

of the cockpit environment to include as much of the outside view as possible, and parametric data per aircraft and system installation, all as specified in Technical Standard Order C197, "Information Collection and Monitoring Systems." (A-13-13) (See section 2.7)
• Initiate an aviation weather camera program in Hawaii that includes the installation and maintenance of aviation weather cameras at critical locations in Hawaii. Establish public access to these aviation weather cameras' real-time imagery. (A-13-25) (See section 2.4.1)
• Equip flight service station specialists responsible for Hawaii and the continental United States with the technical capabilities and training to provide verbal preflight and en route briefings using aviation weather camera imagery. (A-13-27) (See section 2.4.1)
• Require all 14 Code of Federal Regulations Part 135 operators to install flight data recording devices capable of supporting a flight data monitoring program. (A-16-34) (See section 2.5.3)
• After the action in Safety Recommendation A-16-34 is completed, require all 14 Code of Federal Regulations Part 135 operators to establish a structured flight data monitoring program that reviews all available data sources to identify deviations from established norms and procedures and other potential safety issues. (A 16 35) (See section 2.5.3)
• Require all 14 Code of Federal Regulations Part 135 operators to establish safety management system programs. (A-16-36) (See section 2.5.2)
• Identify high-traffic air tour areas and require, through a special federal aviation regulation or other means, that Title 14 Code of Federal Regulations Parts 91 and 135 air tour operators that operate within those areas be equipped with an Automatic Dependent Surveillance Broadcast Out- and In-supported traffic advisory system that 1) includes both visual and aural alerts, 2) is driven by an algorithm designed to minimize nuisance alerts, and 3) is operational during all flight operations. (A-21-15) (See section 2.4.2.2)
• Require the use of appropriate simulation devices during initial and recurrent pilot training for Title 14 Code of Federal Regulations Part 135 helicopter operations to provide scenario-based training that addresses the decision-making, skills, and procedures needed to recognize and respond to changing weather conditions in flight, identify and apply mitigation strategies for avoiding adverse weather, practice the transition to the use of flight instruments to reduce the risk of spatial disorientation, and maintain awareness of a variety of influences that can adversely affect pilot decision-making. (A 21 5) (See section 2.8.2)
• Convene a multidisciplinary panel of aircraft performance, human factors, and aircraft operations specialists to evaluate spatial disorientation simulation technologies to determine which applications are most effective for training pilots to recognize the onset of spatial disorientation and successfully mitigate it, and make public a report on the committee's findings. (A-21-6) (See section 2.8.2)
In the same report, we also classified and reiterated two previously issued safety recommendations:
• In cooperation with Hawaii commercial air tour operators, aviation psychologists, and meteorologists, among others, develop a cue-based training program for commercial air tour pilots in Hawaii that specifically addresses hazardous aspects of local weather phenomena and in-flight decision-making. (A 07-18, classified "Open—Unacceptable Response" in section 2.3.2)
• Once a cue-based training program that specifically addresses hazardous aspects of local weather phenomena and weather-related, decision-making issues is developed (as requested in Safety Recommendation A-07-18), require all commercial air tour operators in Hawaii to provide this training to newly hired pilots. (A-07-19, classified "Open—Unacceptable Response" in section 2.3.2)

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (new Safety Recommendations A-22 -11 through -18, Reiterated Recommendations A 13 13, A-13-25, A-13-27, A-16-34 through -36, A 21 5, A-21-6, and A-21-15), and Classified and Reiterated Recommendations (A 07 18 and -19). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

08/03/22	Addressee	Official Correspondence	68883

-From Billy Nolen, Acting Administrator: The FAA is currently in the process of revising Operations Specifications (OPSPEC) Paragraph B048, "Operations in the Vicinity of the Hawaiian Islands," and Letter of Authorization (LOA) B548, which will be available to Hawaii air tour operators who apply for and meet the applicable requirements within the next year. The FAA is continuing to evaluate requirements for the use of ADS-B Out equipment in air tour operator aircraft as a requirement to obtain the revised OPSPEC B048/LOA B548. The FAA encourages all air tour operators to install ADS-B In/Out equipment in their aircraft.

03/30/23	NTSB	Official Correspondence	68883

We note that you are evaluating whether ADS-B Out equipment should be installed in aircraft used for air tour operations as a requirement for obtaining Operations Specifications (OPSPEC) Paragraph B048, "Operations in the Vicinity of the Hawaiian Islands," and Letter of Authorization (LOA) B548. We also note that you are in the process of revising both documents. Pending our review of the revised OPSPEC and LOA and completion of the recommended action, Safety Recommendation A-22-13 is classified OPEN--ACCEPTABLE RESPONSE.			
09/06/23	NTSB	Official Correspondence	70843

On August 4, 2023, the Federal Aviation Administration (FAA) announced the publication of draft Advisory Circular (AC) 136-B048, Supplemental Information for the Creation of Operating Procedures and Pilot Training Subjects Related to OpSpec [operations specification]/LOA [letter of authorization] B048, and invited public comment on the document. The NTSB has a longstanding interest in air tour safety in the state of Hawaii, having investigated numerous Hawaii air tour accidents and issued many related safety recommendations and we offer our comments below.

We note that, based on the contents of the draft AC, it appears that the FAA's intent is that it will replace FAA document AWP13-136, the Hawaii Air Tour Common Procedures Manual (HATCPM), which the FAA issued in 2008 for use by operators that obtained authorization (through OpSpec B048 or LOA B548) to deviate from the minimum altitude specified in 14 Code of Federal Regulations (CFR) Part 136, Appendix A. For those operators that obtained authorization through OpSpec B048/LOA B548, compliance with the provisions of the HATCPM was mandatory. In our 2022 report on our investigation of the December 26, 2019, fatal air tour helicopter accident in Kekaha, Hawaii, we noted that the HATCPM had not been revised since it was issued and that the FAA informed us that it had been working on a replacement for about 7 years.

During our investigation, an air tour subject matter expert from the FAA's Air Transportation Division, [14 CFR] Part 135 Air Carrier Operations Branch, informed us that the FAA's vision for the new document was for it to be up to date; incorporate NTSB safety recommendations, congressional input, and National Park Service input; and be simpler, safer, and easier to manage. They also said that the document would likely address the use of Hawaii weather camera systems and operator implementation of safety management systems (SMSs).

We have examined the draft AC and are providing comments related to these issues and open NTSB recommendations related to air tour safety in Hawaii. We note that, although ACs, generally, are not regulatory documents, we presume that operators that obtain authorization through OpSpec/LOA B048 will be required to comply with the AC's provisions (similar to the mandatory compliance with the HATCPM for those operators that held deviation authority).

Automatic Dependent Surveillance-Broadcast Equipment Applications

During our investigation of a 2019 fatal midair collision involving two air tour airplanes in Ketchikan, Alaska, we observed that high-traffic air tour areas have a higher midair collision risk than the general National Airspace System.3 As a result, in 2021, we issued Safety Recommendation A-21-15, which urged the FAA to do the following:
Identify high-traffic air tour areas and require, through a special federal aviation regulation (SFAR) or other means, that 14 CFR Parts 91 and 135 air tour operators that operate within those areas be equipped with an automatic dependent surveillance-broadcast (ADS-B) Out- and In-supported traffic advisory system that 1) includes both visual and aural alerts, 2) is driven by an algorithm designed to minimize nuisance alerts, and 3) is operational during all flight operations.

Due to the presence of similar risks in high-traffic air tour areas in Hawaii, as well as the usefulness of ADS-B broadcast data for monitoring air tour flights and potentially detecting deviations from safe operating practices (discussed further below), we reiterated Safety Recommendation A-21-15 in our 2022 report on the Kekaha accident. However, the FAA recently informed us that it determined that current ADS-B requirements adequately address the needs of aviation safety and that it did not plan to pursue any additional ADS-B requirements at this time.

In 2022, we issued Safety Recommendation A-22-13 (also from our report on the Kekaha accident), which urged the FAA to require, as an interim measure until the completion of action to satisfy Safety Recommendation A-21-15, that Hawaii air tour operators install ADS-B Out equipment in their aircraft to enable real-time flight position tracking. In August 2022, the FAA informed us that it was revising OpSpec B048/LOA B548 and that it was continuing to evaluate requirements for the use of ADS-B Out equipment in air tour operators' aircraft as a requirement to obtain the revised OpSpec B048/LOA B548. Pending review of the revised OpSpec and LOA and completion of the recommended action, Safety Recommendation A-22-13 is classified Open—Acceptable Response.

We note that, although the draft AC recommends that Hawaii air tour operators install ADS-B equipment with In and Out capability and inform the FAA about its use, the AC does not state that such equipment will be required. Therefore, after the AC is issued, the FAA will still need to complete the revisions to OpSpec B048/LOA B548 to satisfy Safety Recommendation A-22-13.

10/02/23	Addressee	Official Correspondence	71078

-From Kathryn B. Thomson, Deputy Administrator: The Federal Aviation Administration (FAA) continues to expand weather camera services in Hawaii to enhance aviation safety and pilot decision-making with the installation of 15 of the 26 planned sites to date. The following 10 new sites, in addition to the 5 sites listed in our previous letter, include (available at https://weathercams.faa.gov/):

1. Holei Pali (POAA)
2. Kalaupapa (PHLU)
3. Kapalua (JHM)
4. Laie (HI58)
5. Laupahoehoe (QHC)
6. Lihue (PHLI)
7. Makaha Ridge (PHBK)
8. Upolo (PHUP)
9. Wahiawa (PHHI)
10. Waimanalo (CKH)

The FAA also continues to develop an advisory circular (AC) providing guidance for all commercial air tour operators to implement an operator-specific flight monitoring system. This AC will include processes to train flight support personnel in the process of preflight risk analysis, provide pilots with weather briefings, monitor the progress of the flights, and participate in two-way communications with pilots to alert them of any weather hazards. The FAA has initiated this draft AC with its anticipated publication by September 30, 2024.

Additionally, the FAA released draft AC 136-B048, Supplemental Information for the Creation of Operating Procedures and Pilot Training Subjects Related to OpSpec/LOA B048, for public comment, which can be found at the following website: https://www.faa.gov/aircraft/draft_docs/afs_ac/AC_136-B048_Coord_Copy.pdf

Finally, revisions to Operations Specifications (OPSPEC) Paragraph B048, Operations in the Vicinity of the Hawaiian Islands, and Letter of Authorization (LOA) B548 continue to be delayed due to the need for additional internal coordination. We are continuing to evaluate requirements for the use of ADS-B Out equipment in air tour operator aircraft as a requirement to obtain the revised OPSPEC B048/LOA B548. While the OPSPEC and LOA are being revised, the FAA continues to review Hawaii air tour operators' proprietary training materials for the required cue-based, island-specific weather training. The improved quality of available proprietary training materials has satisfied the need for training examples, which would have otherwise been provided by the FAA.

I will keep the Board informed of the FAA's progress on Safety Recommendations A-07-18, A-07-19, A-17-40, A-22-13, and A-22-14 and anticipate providing an update by August 31, 2024.

10/09/24	NTSB	Official Correspondence	71078

We note that you continue to evaluate whether ADS-B Out equipment should be installed in aircraft used for air tour operations as a requirement for obtaining OpSpec B048, "Operations in the Vicinity of the Hawaiian Islands," and LOA B548, which you are in the process of revising. Pending our review of the revised OpSpec and LOA and completion of the recommended action, Safety Recommendation A-22-13 remains classified OPEN-- ACCEPTABLE RESPONSE.

Recommendation Report

3/19/2025 4:00:00 PM

Product/Notation Id	68241 /	**Accident Date:**	12/26/19	**Issue Date:**	05/26/22
City/State:	Lihue, HI	**Accident #:**	ANC20MA010	**Most Wanted List:**	Yes

This report discusses the December 26, 2019, accident involving a seven-seat helicopter operated by Safari Aviation Inc. as a commercial air tour flight that encountered instrument meteorological conditions and collided into terrain in a remote, wooded area near Kekaha, Hawaii, on the island of Kauai. The pilot and the six passengers were fatally injured, and the helicopter was destroyed. Safety issues identified in this report include limited ability of existing infrastructure to fully support some aviation safety-related functions needed for the safe operation of low-flying air tour flights, resulting in air tour pilots having to rely on their own in-flight visual weather assessments; absence of safety assurance processes to guide pilot decision-making; and ineffective monitoring and oversight of Hawaii air tour operators by the Federal Aviation Administration (FAA). As a result of this investigation, the National Transportation Safety Board (NTSB) makes eight new safety recommendations to the FAA, one new safety recommendation to the Vertical Aviation Safety Team, and one new safety recommendation to tour flight operators. NTSB also reiterates nine previously issued recommendations and two previously issued classified recommendations to the FAA.

Recommendation # :		A-22-016	**Overall Status:**	Open - Unacceptable Response	CLASS II

TO THE FEDERAL AVIATION ADMINISTRATION: Issue a safety alert for operators to encourage air tour operators to establish safety assurance processes to routinely review recorded onboard videos and automatic dependent surveillance-broadcast flight tracking data, ideally as part of a safety management system with an integrated flight data monitoring program, for the purpose of identifying and addressing risky trends in weather-related operating practices, such as encounters or near encounters with instrument meteorological conditions-related hazards.

# of Addressees:	1			**Overall Date Closed:**	N/A
Addressee:	FAA		Open - Unacceptable Response	**Date Closed:**	N/A
05/26/22	NTSB	Transmittal Letter		68722	

The attached letter from the NTSB Chair provides information about the NTSB's May 10, 2022, report, Collision into Terrain, Safari Aviation Inc., Airbus AS350 B2, N985SA, Kekaha, Hawaii, December 26, 2019, NTSB AIR-22-05. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at http://www.ntsb.gov.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (for example, new Safety Recommendations A-22-11 through -18, Reiterated Recommendations A 13 13, A-13-25, A-13-27, A-16-34 through -36, A 21 5, A-21-6, and A-21-15)

We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply exceeds 20 megabytes, including attachments, please e mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

This letter provides information about the National Transportation Safety Board's (NTSB) May 10, 2022, report, Collision into Terrain, Safari Aviation Inc., Airbus AS350 B2, N985SA, Kekaha, Hawaii, December 26, 2019, NTSB AIR-22-05. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at http://www.ntsb.gov.
As a result of this investigation, we identified the following safety issues:
• Aviation safety infrastructure limitations in Hawaii, including the need for aviation weather cameras, improved air-to-ground radio communications, and improved automatic dependent surveillance-broadcast (ADS-B) capabilities to enable flight tracking and other

safety services for low-flying air tour flights.

• Lack of effective cue-based weather training for air tour pilots in Hawaii.

• Need for trained company flight support personnel with operational control authority to support pilots' en route, weather-related decision making.

• Need for safety management systems and flight data monitoring programs for Part 135 operators and the incorporation of recorded onboard videos and ADS B flight tracking data into safety assurance reviews.

• Need for improved Federal Aviation Administration (FAA) surveillance of air tour operations in Hawaii.

• Value of crash-resistant flight recorder systems in providing information critical for enabling the identification of the most effective measures to prevent similar accidents.
• Emerging technologies to help prevent accidents resulting from inadvertent encounters with instrument meteorological conditions, including helicopter safety technologies and simulation devices used in pilot training.
Accordingly, the NTSB makes the following safety recommendations to the FAA. Additional information regarding these recommendations can be found in the noted sections of the report.

• Install the necessary infrastructure in Hawaii to enable continuous radio communication between the pilots of low-flying tour flights and ground support personnel, such as flight service station specialists and company flight support personnel, along the most heavily trafficked air tour routes. (A-22-11) (See section 2.4.2.1)

• Implement automatic dependent surveillance-broadcast (ADS-B) infrastructure improvements in Hawaii, such as additional ADS B ground stations, that provide adequate coverage to enable real-time flight tracking and traffic advisory services for ADS-B Out- and In-equipped, low-flying air tour aircraft throughout their entire tour routes. (A-22-12) (See section 2.4.2.2)

• As an interim measure until completion of the action to satisfy Safety Recommendation A 21-15 [previously issued on May 13, 2021], require Hawaii air tour operators to install Automatic Dependent Surveillance-Broadcast Out equipment in their aircraft to enable real time flight position tracking. (A-22-13) (See section 2.4.2.2)

• Require air tour operators to have flight support personnel who are trained to exercise operational control authority, participate in preflight risk analysis, provide pilots with weather briefings, monitor the progress of the flights, and participate in two-way communications with pilots to alert them of any weather hazards. (A-22-14) (See section 2.5.1)

• Develop guidance for small operators for scaling a safety management system that includes methods and techniques for implementation and specific examples applicable to several operational sectors, including air tours. (A 22 15) (See section 2.5.2)

• Issue a safety alert for operators to encourage air tour operators to establish safety assurance processes to routinely review recorded onboard videos and automatic dependent surveillance-broadcast flight tracking data, ideally as part of a safety management system with an integrated flight data monitoring program, for the purpose of identifying and addressing risky trends in weather related operating practices, such as encounters or near encounters with instrument-meteorological-conditions-related hazards. (A-22-16) (See section 2.5.4)

• Improve the surveillance of air tour operations in Hawaii through the use of technologies and innovative approaches, including but not limited to comparing automatic dependent surveillance broadcast flight position data from air tour flights with weather camera imagery for the route and periodically reviewing onboard video recordings, to detect and correct operating practices that may lead to unacceptable weather-related risky behavior. (A 22 17) (See section 2.6)

• Issue and periodically update a special airworthiness information bulletin that lists newly manufactured helicopters that are equipped with features likely to reduce accidents resulting from inadvertent encounters with instrument meteorological conditions, describes retrofit options for helicopters that do not have such equipment, and encourages the voluntary integration of these safety features. (A-22-18) (See section 2.8.1)

In addition, the NTSB reiterates the following recommendations to the FAA:

• Require all existing turbine-powered, nonexperimental, nonrestricted-category aircraft that are not equipped with a flight data recorder or cockpit voice recorder and are operating under 14 Code of Federal Regulations Parts 91, 121, or 135 to be retrofitted with a crash-resistant flight recorder system. The crash resistant flight recorder system should record cockpit audio and images with a view of the cockpit environment to include as much of the outside view as possible, and parametric data per aircraft and system installation, all as specified in Technical Standard Order C197, "Information Collection and Monitoring Systems." (A-13-13) (See section 2.7)
• Initiate an aviation weather camera program in Hawaii that includes the installation and maintenance of aviation weather cameras at critical locations in Hawaii. Establish public access to these aviation weather cameras' real-time imagery. (A-13-25) (See section 2.4.1)
• Equip flight service station specialists responsible for Hawaii and the continental United States with the technical capabilities and training to provide verbal preflight and en route briefings using aviation weather camera imagery. (A-13-27) (See section 2.4.1)
• Require all 14 Code of Federal Regulations Part 135 operators to install flight data recording devices capable of supporting a flight data monitoring program. (A-16-34) (See section 2.5.3)
• After the action in Safety Recommendation A-16-34 is completed, require all 14 Code of Federal Regulations Part 135 operators to establish a structured flight data monitoring program that reviews all available data sources to identify deviations from established norms and procedures and other potential safety issues. (A 16 35) (See section 2.5.3)
• Require all 14 Code of Federal Regulations Part 135 operators to establish safety management system programs. (A-16-36) (See section 2.5.2)
• Identify high-traffic air tour areas and require, through a special federal aviation regulation or other means, that Title 14 Code of Federal Regulations Parts 91 and 135 air tour operators that operate within those areas be equipped with an Automatic Dependent Surveillance Broadcast Out- and In-supported traffic advisory system that 1) includes both visual and aural alerts, 2) is driven by an algorithm designed to minimize nuisance alerts, and 3) is operational during all flight operations. (A-21-15) (See section 2.4.2.2)
• Require the use of appropriate simulation devices during initial and recurrent pilot training for Title 14 Code of Federal Regulations Part 135 helicopter operations to provide scenario-based training that addresses the decision-making, skills, and procedures needed to recognize and respond to changing weather conditions in flight, identify and apply mitigation strategies for avoiding adverse weather, practice the transition to the use of flight instruments to reduce the risk of spatial disorientation, and maintain awareness of a variety of influences that can adversely affect pilot decision-making. (A 21 5) (See section 2.8.2)
• Convene a multidisciplinary panel of aircraft performance, human factors, and aircraft operations specialists to evaluate spatial disorientation simulation technologies to determine which applications are most effective for training pilots to recognize the onset of spatial disorientation and successfully mitigate it, and make public a report on the committee's findings. (A-21-6) (See section 2.8.2)
In the same report, we also classified and reiterated two previously issued safety recommendations:
• In cooperation with Hawaii commercial air tour operators, aviation psychologists, and meteorologists, among others, develop a cue-based training program for commercial air tour pilots in Hawaii that specifically addresses hazardous aspects of local weather phenomena and in-flight decision-making. (A 07-18, classified "Open—Unacceptable Response" in section 2.3.2)
• Once a cue-based training program that specifically addresses hazardous aspects of local weather phenomena and weather-related, decision-making issues is developed (as requested in Safety Recommendation A-07-18), require all commercial air tour operators in Hawaii to provide this training to newly hired pilots. (A-07-19, classified "Open—Unacceptable Response" in section 2.3.2)

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (new Safety Recommendations A-22 -11 through -18, Reiterated Recommendations A 13 13, A-13-25, A-13-27, A-16-34 through -36, A 21 5, A-21-6, and A-21-15), and Classified and Reiterated Recommendations (A 07 18 and -19). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

08/03/22	Addressee	Official Correspondence	68883

-From Billy Nolen, Acting Administrator: The FAA disagrees that issuing a safety alert for operators to establish a safety assurance process is in the best interest of promoting aviation safety. A formal safety assurance procedure currently exists in OPSPEC B048. OPSPEC B048 requires that certificate holders conduct one formal commercial air tour safety meeting each 12 calendar months to discuss safety trends and 14 CFR Part 136, Appendix A issues. Safety issues are also discussed during operator initial and recurrent training sessions.

03/30/23	NTSB	Official Correspondence	68883

We note that you do not plan to issue the recommended SAFO because you do not believe it is in the best interest of promoting aviation safety. You point out that OPSPEC B048 includes a formal safety assurance procedure and requires that certificate holders conduct one formal commercial air tour safety meeting annually to discuss safety trends.

We do not believe OPSPEC B048 is responsive to this recommendation. We point out that the intent of this recommendation is for the FAA to encourage air tour operators to review recorded ADS-B data to identify and track occurrences, such as a flight's descent below a required minimum altitude, and review the circumstances of the event with the pilot in a nonpunitive fashion. In conjunction with weather data and other information, such reviews could allow air tour operators to explore what happened and learn about the integrity and effectiveness of existing risk controls. For operators that have an FDM program or an SMS, or both, these reviews can be integrated into the safety assurance functions. We encourage you to reconsider your position and issue the recommended SAFO. In the meantime, pending our review of a plan for taking the recommended action, Safety Recommendation A-22-16 is classified OPEN-- UNACCEPTABLE RESPONSE.

08/31/23	Addressee	Official Correspondence	70936

-From Kathryn B. Thomson, Deputy Administrator: The Federal Aviation Administration (FAA) continues to find that issuing a safety alert for operators (SAFO) to encourage the recommended safety assurance process is unnecessary. Safety assurance processes, including reviewing Automatic Dependent Surveillance-Broadcast (ADS-B) data, are routinely discussed during operator initial and recurrent training sessions, annual commercial air tour safety meetings as required by Operations Specifications B048, and annual FAA surveillance. Issuing a SAFO to further encourage reviewing ADS-B data will likely have little to no effect on the already widely understood benefits of ADS-B data review.

09/06/23	NTSB	NPRM Response	70843

On August 4, 2023, the Federal Aviation Administration (FAA) announced the publication of draft Advisory Circular (AC) 136-B048, Supplemental Information for the Creation of Operating Procedures and Pilot Training Subjects Related to OpSpec [operations specification]/LOA [letter of authorization] B048, and invited public comment on the document. The NTSB has a longstanding interest in air tour safety in the state of Hawaii, having investigated numerous Hawaii air tour accidents and issued many related safety recommendations and we offer our comments below.

We note that, based on the contents of the draft AC, it appears that the FAA's intent is that it will replace FAA document AWP13-136, the Hawaii Air Tour Common Procedures Manual (HATCPM), which the FAA issued in 2008 for use by operators that obtained authorization (through OpSpec B048 or LOA B548) to deviate from the minimum altitude specified in 14 Code of Federal Regulations (CFR) Part 136, Appendix A. For those operators that obtained authorization through OpSpec B048/LOA B548, compliance with the provisions of the HATCPM was mandatory. In our 2022 report on our investigation of the December 26, 2019, fatal air tour helicopter accident in Kekaha, Hawaii, we noted that the HATCPM had not been revised since it was issued and that the FAA informed us that it had been working on a replacement for about 7 years.

During our investigation, an air tour subject matter expert from the FAA's Air Transportation Division, [14 CFR] Part 135 Air Carrier Operations Branch, informed us that the FAA's vision for the new document was for it to be up to date; incorporate NTSB safety recommendations, congressional input, and National Park Service input; and be simpler, safer, and easier to manage. They also said that the document would likely address the use of Hawaii weather camera systems and operator implementation of safety management systems (SMSs).

We have examined the draft AC and are providing comments related to these issues and open NTSB recommendations related to air tour safety in Hawaii. We note that, although ACs, generally, are not regulatory documents, we presume that operators that obtain authorization through OpSpec/LOA B048 will be required to comply with the AC's provisions (similar to the mandatory compliance with the HATCPM for those operators that held deviation authority).

Safety Management Systems and Other Safety Assurance Processes

In 2016, we issued Safety Recommendation A-16-36, which urged the FAA to require all Part 135 operators to establish SMS.4 We were pleased to learn that on January 11, 2023, the FAA published a notice of proposed rulemaking (NPRM) announcing its intent to require such systems for Part 135 operators and air tour operators operating under 14 CFR 91.147. We strongly support the FAA's proposed expansion of SMS requirements, which would include all Hawaii air tour operators.

We note that the draft AC states that a certificate holder "should present to the Administrator the method they will utilize to analyze, mitigate, and manage risks while conducting commercial air tour operations under the authorization" and that the FAA will review each certificate holder's application as a whole and may recommend changes before approval. This appears to lay the groundwork for FAA verification of future SMS requirements. Therefore, although the draft AC is not directly responsive to Safety Recommendation A-16-36, its reporting provision would allow the FAA to evaluate operators' risk management strategies, including the applicable components of SMS, once the proposed new rule is implemented.

Our 2022 investigation report on the Kekaha accident also highlighted the importance of the safety assurance aspect of SMS for preventing a drift toward risky weather-related operating practices among Hawaii air tour pilots. In that report, we issued Safety Recommendation A-22-16, which urged the FAA to issue a safety alert for operators (SAFO) to encourage air tour operators to establish safety assurance processes to routinely review recorded onboard videos and ADS-B flight tracking data, ideally as part of an SMS with an integrated flight data monitoring program, for the purpose of identifying and addressing risky trends in weather-related operating practices, such as encounters or near encounters with instrument meteorological conditions (IMC)-related hazards.

In August 2022, the FAA replied that it disagreed that issuing a SAFO to establish a safety assurance process is in the best interest of promoting aviation safety. The FAA pointed out that a formal safety assurance procedure currently exists in OpSpec B048, which requires that certificate holders conduct one formal commercial air tour safety meeting each year to discuss safety trends and Part 136, Appendix A issues. However, we do not believe that OpSpec B048 is responsive to this recommendation, as the intent of this recommendation is to encourage air tour operators to review recorded ADS-B data to identify and track occurrences, such as a flight's descent below a required minimum altitude, and review the circumstances of the event with the pilot in a nonpunitive fashion to explore what happened and learn about the integrity and effectiveness of existing risk controls. This recommendation is currently classified Open—Unacceptable Response.

We note that the draft AC lists FAA AC 120-92, Safety Management Systems for Aviation Service Providers, under a section titled "Related Reading Material" and that AC 120-92 includes information on all the major components of SMS. We also note that the draft AC encourages Hawaii air tour operators to engage in risk management. The draft AC states that the FAA may recommend that operators include additional safety risk analysis (a component of SMS), but it does not contain specific provisions that address the development of safety assurance processes like those described in Safety Recommendation A-22-16. Therefore, the draft AC is not responsive to Safety Recommendation A-22-16.

Safety Recommendation A-22-15, which was also issued as a result of the Kekaha investigation, urged the FAA to develop guidance for small operators for scaling an SMS that includes methods and techniques for implementation and specific examples applicable to several operational sectors, including air tours. Although the draft AC does not specifically discuss scaling an SMS for Hawaii air tour operators, we noted that the FAA has informed us that its ongoing SMS rulemaking effort will address this recommendation. Thus, Safety Recommendation A-22-15 is classified Open—Acceptable Response.

Safety Recommendation A-22-18 (also from our report on the Kekaha accident) urged the FAA to issue and periodically update a special airworthiness information bulletin (SAIB) that lists newly manufactured helicopters that are equipped with features likely to reduce accidents resulting from inadvertent encounters with IMC, describes retrofit options for helicopters that do not have such equipment, and encourages the voluntary integration of these safety features. This recommendation is classified Open—Await Response. Although this recommendation specifically called for the publication of an SAIB, we note that the draft AC does not encourage voluntary integration of such safety features. It does, however, state that an operator should include in its application a description of any supplemental type certificates related to aircraft instrumentation and equipment. Therefore, although the draft AC is not responsive to Safety Recommendation A-22-18, we are pleased that it may increase the FAA's awareness of any such equipment that may be installed.

07/03/24	NTSB	Official Correspondence	70936

We note that you continue to believe the recommended SAFO is unnecessary because the FAA already routinely discusses safety assurance processes, including reviewing ADS-B data, during initial and recurrent operator training, annual commercial air tour safety meetings, and annual FAA surveillance.

We point out that the intent of this recommendation is for the FAA to encourage air tour operators to review recorded ADS-B data to identify and track occurrences, such as a flight's descent below a required minimum altitude, and discuss the circumstances of the event with the pilot in a nonpunitive fashion. Despite your efforts to discuss safety assurance processes with operators, the accident operator did not have adequate safety assurance processes to assess if company strategies to reduce pilots' risk of inadvertent encounters with instrument meteorological conditions were effective. In addition, you have not responded to the part of this recommendation that asks you to ensure that operators establish safety assurance processes to routinely review recorded onboard videos.

We believe that air tour operators could systematically review onboard videos in conjunction with weather data and other information to identify and track risky trends in weather-related operating practices and review them in a nonpunitive fashion with their pilots. The accident operator in this case could have identified and mitigated some of the risks for continuing flight under visual flight rules into reduced-visibility conditions by periodically reviewing videos from the accident pilot's flights prior to the accident. We also believe periodic reviews could reinforce continuous good decision-making. Therefore, we continue to believe that issuing a SAFO on these topics is appropriate and needed. Pending the recommended action, Safety Recommendation A-22-16 remains classified OPEN--UNACCEPTABLE RESPONSE.

Recommendation Report

3/19/2025 4:00:01 PM

Product/Notation Id	68241 /	**Accident Date:**	12/26/19	**Issue Date:**	05/26/22
City/State:	Lihue, HI	**Accident #:**	ANC20MA010	**Most Wanted List:**	No

This report discusses the December 26, 2019, accident involving a seven-seat helicopter operated by Safari Aviation Inc. as a commercial air tour flight that encountered instrument meteorological conditions and collided into terrain in a remote, wooded area near Kekaha, Hawaii, on the island of Kauai. The pilot and the six passengers were fatally injured, and the helicopter was destroyed. Safety issues identified in this report include limited ability of existing infrastructure to fully support some aviation safety-related functions needed for the safe operation of low-flying air tour flights, resulting in air tour pilots having to rely on their own in-flight visual weather assessments; absence of safety assurance processes to guide pilot decision-making; and ineffective monitoring and oversight of Hawaii air tour operators by the Federal Aviation Administration (FAA). As a result of this investigation, the National Transportation Safety Board (NTSB) makes eight new safety recommendations to the FAA, one new safety recommendation to the Vertical Aviation Safety Team, and one new safety recommendation to tour flight operators. NTSB also reiterates nine previously issued recommendations and two previously issued classified recommendations to the FAA.

Recommendation # :		A-22-017	**Overall Status:**	Open - Unacceptable Response	CLASS II

TO THE FEDERAL AVIATION ADMINISTRATION: Improve the surveillance of air tour operations in Hawaii through the use of technologies and innovative approaches, including but not limited to comparing automatic dependent surveillance-broadcast flight position data from air tour flights with weather camera imagery for the route and periodically reviewing onboard video recordings, to detect and correct operating practices that may lead to unacceptable weather-related risky behavior.

# of Addressees:	1			**Overall Date Closed:**	N/A
Addressee:	FAA		Open - Unacceptable Response	**Date Closed:**	N/A
05/26/22	NTSB	Transmittal Letter		68722	

The attached letter from the NTSB Chair provides information about the NTSB's May 10, 2022, report, Collision into Terrain, Safari Aviation Inc., Airbus AS350 B2, N985SA, Kekaha, Hawaii, December 26, 2019, NTSB AIR-22-05. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at http://www.ntsb.gov.

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (for example, new Safety Recommendations A-22-11 through -18, Reiterated Recommendations A 13 13, A-13-25, A-13-27, A-16-34 through -36, A 21 5, A-21-6, and A-21-15)

We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply exceeds 20 megabytes, including attachments, please e mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

This letter provides information about the National Transportation Safety Board's (NTSB) May 10, 2022, report, Collision into Terrain, Safari Aviation Inc., Airbus AS350 B2, N985SA, Kekaha, Hawaii, December 26, 2019, NTSB AIR-22-05. The details of this accident investigation and the resulting safety recommendations may be found in the attached report, which can also be accessed at http://www.ntsb.gov.
As a result of this investigation, we identified the following safety issues:
• Aviation safety infrastructure limitations in Hawaii, including the need for aviation weather cameras, improved air-to-ground radio communications, and improved automatic dependent surveillance-broadcast (ADS-B) capabilities to enable flight tracking and other safety services for low-flying air tour flights.

• Lack of effective cue-based weather training for air tour pilots in Hawaii.

• Need for trained company flight support personnel with operational control authority to support pilots' en route, weather-related decision making.

• Need for safety management systems and flight data monitoring programs for Part 135 operators and the incorporation of recorded onboard videos and ADS B flight tracking data into safety assurance reviews.

• Need for improved Federal Aviation Administration (FAA) surveillance of air tour operations in Hawaii.

• Value of crash-resistant flight recorder systems in providing information critical for enabling the identification of the most effective measures to prevent similar accidents.
• Emerging technologies to help prevent accidents resulting from inadvertent encounters with instrument meteorological conditions, including helicopter safety technologies and simulation devices used in pilot training.
Accordingly, the NTSB makes the following safety recommendations to the FAA. Additional information regarding these recommendations can be found in the noted sections of the report.

• Install the necessary infrastructure in Hawaii to enable continuous radio communication between the pilots of low-flying tour flights and ground support personnel, such as flight service station specialists and company flight support personnel, along the most heavily trafficked air tour routes. (A-22-11) (See section 2.4.2.1)

• Implement automatic dependent surveillance-broadcast (ADS-B) infrastructure improvements in Hawaii, such as additional ADS B ground stations, that provide adequate coverage to enable real-time flight tracking and traffic advisory services for ADS-B Out- and In-equipped, low-flying air tour aircraft throughout their entire tour routes. (A-22-12) (See section 2.4.2.2)

• As an interim measure until completion of the action to satisfy Safety Recommendation A 21-15 [previously issued on May 13, 2021], require Hawaii air tour operators to install Automatic Dependent Surveillance-Broadcast Out equipment in their aircraft to enable real time flight position tracking. (A-22-13) (See section 2.4.2.2)

• Require air tour operators to have flight support personnel who are trained to exercise operational control authority, participate in preflight risk analysis, provide pilots with weather briefings, monitor the progress of the flights, and participate in two-way communications with pilots to alert them of any weather hazards. (A-22-14) (See section 2.5.1)

• Develop guidance for small operators for scaling a safety management system that includes methods and techniques for implementation and specific examples applicable to several operational sectors, including air tours. (A 22 15) (See section 2.5.2)

• Issue a safety alert for operators to encourage air tour operators to establish safety assurance processes to routinely review recorded onboard videos and automatic dependent surveillance-broadcast flight tracking data, ideally as part of a safety management system with an integrated flight data monitoring program, for the purpose of identifying and addressing risky trends in weather related operating practices, such as encounters or near encounters with instrument-meteorological-conditions-related hazards. (A-22-16) (See section 2.5.4)

• Improve the surveillance of air tour operations in Hawaii through the use of technologies and innovative approaches, including but not limited to comparing automatic dependent surveillance broadcast flight position data from air tour flights with weather camera imagery for the route and periodically reviewing onboard video recordings, to detect and correct operating practices that may lead to unacceptable weather-related risky behavior. (A 22 17) (See section 2.6)

• Issue and periodically update a special airworthiness information bulletin that lists newly manufactured helicopters that are equipped with features likely to reduce accidents resulting from inadvertent encounters with instrument meteorological conditions, describes retrofit options for helicopters that do not have such equipment, and encourages the voluntary integration of these safety features. (A-22-18) (See section 2.8.1)

In addition, the NTSB reiterates the following recommendations to the FAA:

• Require all existing turbine-powered, nonexperimental, nonrestricted-category aircraft that are not equipped with a flight data

recorder or cockpit voice recorder and are operating under 14 Code of Federal Regulations Parts 91, 121, or 135 to be retrofitted with a crash-resistant flight recorder system. The crash resistant flight recorder system should record cockpit audio and images with a view of the cockpit environment to include as much of the outside view as possible, and parametric data per aircraft and system installation, all as specified in Technical Standard Order C197, "Information Collection and Monitoring Systems." (A-13-13) (See section 2.7)
• Initiate an aviation weather camera program in Hawaii that includes the installation and maintenance of aviation weather cameras at critical locations in Hawaii. Establish public access to these aviation weather cameras' real-time imagery. (A-13-25) (See section 2.4.1)
• Equip flight service station specialists responsible for Hawaii and the continental United States with the technical capabilities and training to provide verbal preflight and en route briefings using aviation weather camera imagery. (A-13-27) (See section 2.4.1)
• Require all 14 Code of Federal Regulations Part 135 operators to install flight data recording devices capable of supporting a flight data monitoring program. (A-16-34) (See section 2.5.3)
• After the action in Safety Recommendation A-16-34 is completed, require all 14 Code of Federal Regulations Part 135 operators to establish a structured flight data monitoring program that reviews all available data sources to identify deviations from established norms and procedures and other potential safety issues. (A 16 35) (See section 2.5.3)
• Require all 14 Code of Federal Regulations Part 135 operators to establish safety management system programs. (A-16-36) (See section 2.5.2)
• Identify high-traffic air tour areas and require, through a special federal aviation regulation or other means, that Title 14 Code of Federal Regulations Parts 91 and 135 air tour operators that operate within those areas be equipped with an Automatic Dependent Surveillance Broadcast Out- and In-supported traffic advisory system that 1) includes both visual and aural alerts, 2) is driven by an algorithm designed to minimize nuisance alerts, and 3) is operational during all flight operations. (A-21-15) (See section 2.4.2.2)
• Require the use of appropriate simulation devices during initial and recurrent pilot training for Title 14 Code of Federal Regulations Part 135 helicopter operations to provide scenario-based training that addresses the decision-making, skills, and procedures needed to recognize and respond to changing weather conditions in flight, identify and apply mitigation strategies for avoiding adverse weather, practice the transition to the use of flight instruments to reduce the risk of spatial disorientation, and maintain awareness of a variety of influences that can adversely affect pilot decision-making. (A 21 5) (See section 2.8.2)
• Convene a multidisciplinary panel of aircraft performance, human factors, and aircraft operations specialists to evaluate spatial disorientation simulation technologies to determine which applications are most effective for training pilots to recognize the onset of spatial disorientation and successfully mitigate it, and make public a report on the committee's findings. (A-21-6) (See section 2.8.2)
In the same report, we also classified and reiterated two previously issued safety recommendations:
• In cooperation with Hawaii commercial air tour operators, aviation psychologists, and meteorologists, among others, develop a cue-based training program for commercial air tour pilots in Hawaii that specifically addresses hazardous aspects of local weather phenomena and in-flight decision-making. (A 07-18, classified "Open—Unacceptable Response" in section 2.3.2)
• Once a cue-based training program that specifically addresses hazardous aspects of local weather phenomena and weather-related, decision-making issues is developed (as requested in Safety Recommendation A-07-18), require all commercial air tour operators in Hawaii to provide this training to newly hired pilots. (A-07-19, classified "Open—Unacceptable Response" in section 2.3.2)

The NTSB is vitally interested in these recommendations because they are designed to prevent accidents and save lives. We would appreciate a response within 90 days of the date of this letter, detailing the actions you have taken or intend to take to implement these recommendations. When replying, please refer to the safety recommendations by number (new Safety Recommendations A-22 -11 through -18, Reiterated Recommendations A 13 13, A-13-25, A-13-27, A-16-34 through -36, A 21 5, A-21-6, and A-21-15), and Classified and Reiterated Recommendations (A 07 18 and -19). We encourage you to submit your response to ExecutiveSecretariat@ntsb.gov. If your reply, including attachments, exceeds 20 megabytes, please e mail us at the same address for instructions on how to send larger documents. Please do not submit both an electronic copy and a hard copy of the same response.

08/03/22	Addressee	Official Correspondence	68883

-From Billy Nolen, Acting Administrator: The FAA does not agree with this safety recommendation. The FAA reviewed our surveillance and the methodology of surveillance. We continuously adjust our surveillance to account for emerging technologies and innovative approaches to oversight. The Board's accident report and the subsequent FAA review did not observe a direct connection between this accident and the FAA's safety oversight model.

03/30/23	NTSB	Official Correspondence	68883

We note that you continuously adjust your surveillance to account for emerging technologies and innovative approaches to oversight. However, you do not intend to take the recommended action because you do not believe there is a direct connection between this accident and the FAA's safety oversight model.

We point out that, because of staffing challenges and management priorities in the 3 years preceding this accident, the Honolulu Flight Standards District Office's ability to perform routine in-person surveillance of Hawaii air tour operations decreased. Although the FAA's risk-based surveillance prioritization enables the most targeted use of limited available resources, there is also value in routinely surveilling the flight operations of Hawaii air tour companies, even those that have not had a recent accident or are not otherwise deemed high-risk. In the past, the FAA has relied on in-person observations of air tour operations, both in the air and on the ground, to detect a drift toward risky operating practices. We believe there may be a tendency among some companies or individual pilots (even those who fly for operators not otherwise identified as high-risk) to develop norms for accepting increasing weather-related risks until they encounter a situation from which they cannot safely escape. We believe the FAA's routine surveillance of air tour flight operations is critical to help counter such behavioral patterns because, without it, the FAA may be unaware that risky weather-related operating practices are occurring. We also recognize that traditional routine surveillance is resource intensive, which is why we believe you should use available technology, such as ADS-B, to conduct operational oversight of air tour operations from a distance.

We encourage you to reconsider your position. In the meantime, pending our review of a plan for taking the recommended action, Safety Recommendation A-22-17 is classified OPEN-- UNACCEPTABLE RESPONSE.

08/31/23	Addressee	Official Correspondence	70936

-From Kathryn B. Thomson, Deputy Administrator: As previously stated, the FAA does not agree with this safety recommendation. The Board's accident report and the subsequent FAA review did not observe a direct connection between this accident and the FAA's safety oversight model. In response to the Board's March 30, 2023, letter citing "staffing challenges and management priorities," the FAA previously improved aviation safety inspector (ASI) retention in the Honolulu Flight Standards District Office (FSDO) by allowing ASIs to reside on other Hawaiian islands. Currently, the Honolulu FSDO has 15 ASIs on staff, which is a significant improvement compared to previous years.

I believe the FAA has effectively addressed Safety Recommendations A-22-16 and -17 and consider our actions complete with no further action planned.

07/03/24	NTSB	Official Correspondence	70936

We note that, although you continue to disagree with this recommendation, you have increased the number of aviation safety inspectors (ASIs) on staff at the Honolulu Flight Standards District Office (FSDO) to 15 and, to improve ASI retention at that FSDO, you are allowing ASIs to reside on other Hawaiian Islands.

We remain concerned that there may be a tendency among some companies or individual pilots (even those who fly for operators not otherwise identified as high-risk) to develop norms for accepting increasing weather-related risks—until they encounter a situation from which they cannot safely escape. We believe the FAA's routine surveillance of air tour flight operations is critical to help counter such behavioral patterns because, without it, the FAA may be unaware that risky weather-related operating practices are occurring. Although we believe the changes at the Honolulu FSDO that you reported are positive, we do not believe they satisfy the intent of this recommendation, which is to use available technology to conduct operational oversight of air tour operations from a distance.

We continue to believe that the FAA needs to develop innovative strategies for conducting operational oversight of air tour operations to reduce procedural drift toward risky weather-related operating practices. These strategies could include, for example, analysis of archived ADS-B data in conjunction with archived weather camera images, review of onboard video recordings from tour aircraft, or other as-yet unidentified methods. Pending the FAA taking the recommended action, Safety Recommendation A-22-17 remains classified OPEN-- UNACCEPTABLE RESPONSE.

Recommendation Report

3/19/2025 4:00:01 PM

Total Number of Recommendations for Recommendation Report: 17

Recommendation Subjects

3/19/2025 4:00:40 PM

Rec #: A-06-021, A-06-022, A-07-025, A-07-026, A-09-093, A-10-009, A-17-042, A-21-015, A-21-016, A-21-017, A-21-028, A-21-029, A-21-030, A-22-012, A-22-013, A-22-016, A-22-017

Recommendation #	Overall Status	Date Closed	Subject
A-06-021	CAA	12/22/11	TO THE FEDERAL AVIATION ADMINISTRATION: Ensure that the infrastructure for the National Automatic Dependent Surveillance Broadcast Program in the Gulf of Mexico is operational by fiscal year 2010.
A-06-022	CAA	04/12/07	TO THE FEDERAL AVIATION ADMINISTRATION: Until the infrastructure for the National Automatic Dependent Surveillance Broadcast Program in the Gulf of Mexico is fully operational, require principal operations inspectors of Gulf of Mexico aircraft operators to inform the operators about the benefits of commercial flight-tracking systems and encourage the operators to acquire such systems.
A-07-025	CAA	11/20/15	TO THE FEDERAL AVIATION ADMINISTRATION: Accelerate the implementation of automatic dependent surveillance-broadcast (ADS-B) infrastructure in the State of Hawaii to include high-quality ADS-B services to low-flying aircraft along heavily traveled commercial air tour routes.
A-07-026	CUA	04/18/14	TO THE FEDERAL AVIATION ADMINISTRATION: Require that Hawaii air tour operators equip tour aircraft with compatible automatic dependent surveillance-broadcast (ADS-B) technology within 1 year of the installation of a functional National ADS-B Program infrastructure in Hawaii.
A-09-093	CUA	08/22/18	TO THE FEDERAL AVIATION ADMINISTRATION: Conduct a systematic evaluation and issue a report on the requirements necessary for a viable low-altitude airspace infrastructure that can accommodate safe helicopter emergency medical services (HEMS) operations. The evaluation should consider improved collection and dissemination of weather data, the role of automatic dependent surveillance-broadcast, approaches to helipad and designated landing zones, and integration into the National Airspace System. Include in the evaluation process HEMS operators, related industry associations, and hospitals, among others.
A-10-009	CAA	02/27/17	TO THE FEDERAL AVIATION ADMINISTRATION: Establish procedures for identifying aircraft equipped with automatic dependent surveillance broadcast (ADS-B) capabilities to personnel responsible for search and rescue (SAR) and to the technical assistance group created pursuant to Safety Recommendation A-10-6 for providing expeditious access to ADS-B location data when needed to support SAR activities.
A-17-042	CUA	04/19/23	TO THE FEDERAL AVIATION ADMINISTRATION: Analyze automatic dependent surveillance-broadcast data from Ketchikan air tour operations on an ongoing basis and meet annually with Ketchikan air tour operators to engage in a nonpunitive discussion of any operational hazards reflected in the data and collaborate on mitigation strategies for any hazards identified.

Recommendation Subjects

3/19/2025 4:00:40 PM

Recommendation #	Overall Status	Date Closed	Subject
A-21-015	OUA		TO THE FEDERAL AVIATION ADMINISTRATION: Identify high-traffic air tour areas and require, through a special federal aviation regulation or other means, that Title 14 Code of Federal Regulations Parts 91 and 135 air tour operators that operate within those areas be equipped with an Automatic Dependent Surveillance-Broadcast Out- and In-supported traffic advisory system that 1) includes both visual and aural alerts, 2) is driven by an algorithm designed to minimize nuisance alerts, and 3) is operational during all flight operations.
A-21-016	OUA		TO THE FEDERAL AVIATION ADMINISTRATION: In the high-traffic air tour areas identified in Safety Recommendation A-21-15, require that all non–air tour aircraft operating within the airspace be equipped with Automatic Dependent Surveillance-Broadcast Out.
A-21-017	OUA		TO THE FEDERAL AVIATION ADMINISTRATION: Require the installation of Automatic Dependent Surveillance-Broadcast Out- and In-supported airborne traffic advisory systems that include aural and visual alerting functions in all aircraft conducting operations under Title 14 Code of Federal Regulations Part 135.
A-21-028	OUA		TO THE FEDERAL AVIATION ADMINISTRATION: Incorporate the automatic dependent surveillance-broadcast weather capability in the next version of the automatic dependent surveillance-broadcast technical standard order.
A-21-029	OUA		TO THE FEDERAL AVIATION ADMINISTRATION: After the automatic dependent surveillance-broadcast (ADS-B) technical standard order is revised as recommended in Safety Recommendation A-21-28, require that aircraft flown in Title 14 Code of Federal Regulations Part 121 air carrier operations be retrofitted with automatic dependent surveillance-broadcast weather capable ADS-B equipment.
A-21-030	OAA		TO THE FEDERAL AVIATION ADMINISTRATION: Require automatic dependent surveillance-broadcast weather (ADS-B Wx)-equipped aircraft to broadcast ADS-B Wx information when operating in airspace requiring automatic dependent surveillance-broadcast capability as defined by Title 14 Code of Federal Regulations 91.225.
A-22-012	OAA		TO THE FEDERAL AVIATION ADMINISTRATION: Implement automatic dependent surveillance-broadcast (ADS-B) infrastructure improvements in Hawaii, such as additional ADS-B ground stations, that provide adequate coverage to enable real-time flight tracking and traffic advisory services for ADS-B Out- and In-equipped, low-flying air tour aircraft throughout their entire tour routes.
A-22-013	OAA		TO THE FEDERAL AVIATION ADMINISTRATION: As an interim measure until completion of the action to satisfy Safety Recommendation A-21-15, require Hawaii air tour operators to install Automatic Dependent Surveillance-Broadcast Out equipment in their aircraft to enable real-time flight position tracking.

Recommendation Subjects

3/19/2025 4:00:40 PM

Recommendation #	Overall Status	Date Closed	Subject
A-22-016	OUA		TO THE FEDERAL AVIATION ADMINISTRATION: Issue a safety alert for operators to encourage air tour operators to establish safety assurance processes to routinely review recorded onboard videos and automatic dependent surveillance-broadcast flight tracking data, ideally as part of a safety management system with an integrated flight data monitoring program, for the purpose of identifying and addressing risky trends in weather-related operating practices, such as encounters or near encounters with instrument meteorological conditions-related hazards.
A-22-017	OUA		TO THE FEDERAL AVIATION ADMINISTRATION: Improve the surveillance of air tour operations in Hawaii through the use of technologies and innovative approaches, including but not limited to comparing automatic dependent surveillance-broadcast flight position data from air tour flights with weather camera imagery for the route and periodically reviewing onboard video recordings, to detect and correct operating practices that may lead to unacceptable weather-related risky behavior.

Total Number of Recommendations for Recommendation Subjects Report: 17

Senator MORAN. Thank you, Chairwoman.

We now recognize Acting Administrator Rocheleau of the FAA for 5 minutes.

STATEMENT OF CHRIS ROCHELEAU, ACTING ADMINISTRATOR, FEDERAL AVIATION ADMINISTRATION

Mr. ROCHELEAU. Thank you, Chairman Moran, Ranking Member Duckworth, Chairman Cruz, and Ranking Member Cantwell, as well as members of the Subcommittee. Thank you for the opportunity to be here today to discuss the NTSB's preliminary report on the midair collision of PSA Airlines Flight 5342 and a U.S. Army Black Hawk helicopter that occurred in January, near Ronald Reagan Washington National Airport, or DCA.

I would like to begin by offering my sincerest sympathies to the families and loved ones of those who perished in recent accidents, particularly the accident near DCA.

The FAA continues to support the ongoing NTSB investigations. Our work with the NTSB will help us understand the factors that contributed to these accidents, and we will use the data to inform future FAA actions.

Aviation safety is the FAA's number one priority. Let me repeat that—aviation safety is the FAA's number one priority. While flying remains the safest mode of transportation, aviation safety is not static. There is always room for improvement. The professionals at the FAA take their jobs very seriously and strive to ensure safety every day. But the fact of the matter is that we have to do better. We have to identify trends, we have to get smarter about how we use data, and when we put corrective actions in place, we must implement them with diligence.

I want to thank Chair Homendy and the entire NTSB team for their dedication in their ongoing investigation.

Earlier this month, the NTSB issued an initial report and two urgent safety recommendations. The recommendations align with the actions the FAA took, under Secretary Duffy's leadership, immediately following the accident, to restrict helicopter operations around DCA, eliminating mixed helicopter and fixed-wing traffic and carefully developing alternative routes.

Following the NTSB recommendations, the FAA took action to make these restrictions permanent. When essential helicopter operations, such as lifesaving medical, active law enforcement, active air defense, or Presidential transport, must operate in the flight-restricted airspace, fixed-wing aircraft are not allowed in that airspace.

We are also continuing to analyze other airports that have both established helicopter routes and nearby airplane traffic. The FAA also is also carefully reviewing offshore helicopter operations. As part of this analysis, we are using machine learning and language modeling to scan incident reports and explore multiple data sources to find themes and areas of concern. We will take immediate action if needed to mitigate any identified safety risks. Additionally, I will establish a Safety Risk Management Panel and engage with aviation stakeholders to identify additional hazard areas involving helicopter and fixed-wing interactions, and all aircraft operating in

DCA Class B airspace will be required to broadcast their position and identification using ADS–B Out, with very limited exceptions.

We are bolstering aviation safety in other ways, too. Air traffic controller staffing is a top priority as air traffic controllers play a critical role in keeping the American people safe. Right now, we have over 10,750 controllers on the job, with over 3,000 in training. We intend to hire another 2,000 controllers this year. We have streamlined the hiring process and incentivized hiring with a 30 percent increase in the salary of those who qualify to attend the FAA's Academy, and we are already seeing positive results from these improvements.

During the hiring surge that closed last week, we received over 10,000 applications, and more than 8,000 of those were referred to testing.

We also continue to maintain rigorous oversight of Boeing to ensure the safety and compliance of its aircraft designs and operations. This oversight extends to ongoing monitoring of Boeing's manufacturing practices, maintenance procedures, and software updates. We are working closely with Boeing to address any safety concerns and to ensure that all required modifications and improvements are made to meet the highest safety standards.

We have a strong foundation at the FAA, and we are going to make our agency even stronger. We are refocusing our energy and directing all of our resources to safety. And we will continue to recruit, train, and retain the best and brightest for the FAA team.

Thank you for the opportunity to testify today. I also thank President Trump and Secretary Duffy for putting their faith in me to lead the FAA during this time. The work we do at the FAA is not easy, but it is vitally important to the American people. And I am proud to once again be part of the FAA team.

I look forward to your questions.

[The prepared statement of Mr. Rocheleau follows:]

PREPARED STATEMENT OF CHRIS ROCHELEAU, ACTING ADMINISTRATOR, FEDERAL AVIATION ADMINISTRATION

Chairman Moran, Ranking Member Duckworth, and Members of the Subcommittee, thank you for the opportunity to be here today to discuss the National Transportation Safety Board's (NTSB) preliminary report on the midair collision of PSA Airlines flight 5342 and a U.S. Army Black Hawk helicopter that occurred in January, near Ronald Reagan Washington National Airport, or DCA.

I would like to begin by offering my sincerest sympathies to the families and loved ones of those who perished in recent accidents, including the accident near DCA. The Federal Aviation Administration (FAA) continues to support the ongoing NTSB investigations. Our work with the NTSB will help us understand the factors that contributed to these accidents, and we will use the data to inform future FAA actions.

Aviation safety is the FAA's number one priority. While flying remains the safest mode of transportation, aviation safety is not static. There is always room for improvement. The professionals at the FAA take their jobs seriously and strive to ensure safety every day. But the fact of the matter is that we have to do better. We have to identify trends, we have to get smarter about how we use data, and when we put corrective actions in place, we must execute them.

I want to thank Chairman Homendy and the entire NTSB team for their diligence in the ongoing investigation. Earlier this month, the NTSB issued a preliminary report and two urgent safety recommendations. The recommendations align with the actions the FAA took, under Secretary Duffy's leadership, to restrict helicopter operations around DCA immediately following the accident, eliminating mixed helicopter and fixed-wing traffic. Following the NTSB recommendations, the FAA took action to make these restrictions permanent. When essential helicopter operations, such as

lifesaving medical, active law enforcement, active air defense, or presidential transport, must operate in the flight-restricted airspace, fixed-wing aircraft are not allowed in that airspace.

We are continuing to analyze other airports that have both charted helicopter routes and nearby airplane traffic. The FAA also is assessing the Gulf of America, including offshore helicopter operations. As part of this analysis, we are using machine learning and language modeling to scan incident reports and mine multiple data sources to find themes and areas of risk. We will take immediate action if needed to mitigate any identified safety risks. In addition, I will establish a Safety Risk Management Panel and engage with aviation stakeholders to identify additional hazard areas involving helicopter and fixed-wing interactions.

We're bolstering aviation safety in other ways, too. Air traffic controller staffing is a top priority as air traffic controllers play a critical role in keeping the American people safe. Right now, we have more than 10,750 air traffic controllers on the job with more than 3,000 in training. We intend to hire another 2,000 controller trainees this year. Consistent with Secretary Duffy's announcement on supercharged air traffic controller hiring, we have streamlined the hiring process to improve efficiency by changing the previous 8-step process to a 5-step process, which will accelerate the time-to-hire for these critical positions by five months or more, bringing new air traffic controllers on the job much faster. We've also incentivized hiring with a 30 percent increase in the salary of those who qualify to attend the FAA's Academy. And we are already seeing positive results from these improvements. During the hiring surge that closed last week, we received more than 10,000 applications. More than 8,300 of those were referred to testing.

We also continue to maintain rigorous oversight of Boeing to ensure the safety and compliance of its aircraft designs and operations. This oversight extends to ongoing monitoring of Boeing's manufacturing practices, maintenance procedures, and software updates. We are working closely with Boeing to address any safety concerns and to ensure that all required modifications and improvements are made to meet the highest safety standards.

We have a strong foundation at the FAA, and we're going to make our agency even stronger. We are refocusing our energy and directing all of our resources to safety. And we'll continue to recruit, train, and retain the best and brightest for our FAA team.

Thank you for the opportunity to testify today. I also thank President Trump and Secretary Duffy for putting their faith in me to lead the FAA during this time. The work we do at the FAA isn't easy, but it's vitally important. And I'm proud to once again be part of the FAA team.

Senator MORAN. Thank you, sir.

I recognize Brigadier General Matthew Braman for his testimony.

STATEMENT OF BRIGADIER GENERAL MATTHEW BRAMAN, DIRECTOR OF ARMY AVIATION, DEPARTMENT OF THE ARMY

General BRAMAN. Thank you, Chairman Moran, Ranking Member Duckworth, Chairman Cruz, Ranking Member Cantwell, and distinguished members of the Committee. I appreciate the opportunity to come here before you today to speak about the midair collision that occurred between an Army Black Hawk helicopter, with the call sign PAT 25, and American Airlines Flight 5342.

First and foremost, on behalf of Army senior leaders, and all of our soldiers, I want to pass my continued condolences to all those affected by this tragedy. I want to thank the professional work of the first responders and the Federal, state, and local agencies that responded within minutes to the crash site and aided in the recovery. I want to thank Chairman Homendy and the NTSB for conducting a thorough investigation and facilitating a close and transparent relationship with the Army as we conduct our parallel investigations.

The NTSB remains lead in the investigation, so I can't offer facts and recommendations at this time, but I can offer the Army per-

spective on the preliminary report and provide clarifying information on Army helicopter operations, and certainly can do that here in the Washington, D.C., area.

For context, the PAT 25's unit, the 12th Aviation Battalion, falls under the Army Aviation Brigade, or referred to as the TAAB, and that unit has the mission to provide continuous, responsive aviation support to senior military and government leaders to enable continuity of government operations and defense support to civil authorities.

The TAAB is one of dozens of organizations, both civilian and military, that operates helicopters in the D.C. area. Our aircraft continue to meet all requirements to operate in the National Airspace, in Class B airspace, and in helicopter routes in Washington, D.C., and they operate under positive control of flight services when within 30 nautical miles of DCA.

PAC 25 was operating out of Davidson Army Airfield, Fort Belvoir. The crew of three were fully qualified to fly in the local area. The Pilot-in-Command, CW2 Andrew Eaves, was an instructor pilot. The Co-Pilot, Captain Rebecca Lobach, was a qualified pilot-in-command, as well, and the Crew Chief, Staff Sergeant Ryan O'Hara, was a standardization flight instructor.

The night of January 29, 2025, PAT 25 was conducting an Annual Proficiency and Readiness Test, or APART. As part of that flight was approved to operate at contingency locations associated with their directed mission. This has led to questions as to whether PAT 25 was transmitting Automatic Dependent Surveillance Broadcasts out, or ADS–B Out. The specific status of both its operation and functionality is something that is under the investigation of the NTSB. The crew, however, was approved to operate with that capability off, in accordance with Army policy.

The aircraft transponder, however, was active, with Mode 3 A/C and Mode S when within the Class B airspace, and was emitting all the required information to allow air traffic services and traffic collision avoidance systems to detect and track the aircraft. Army policy does not permit Transponder Off operations in the National Airspace. They do not permit Transponder Off operations.

There is certainly no shortage of speculation on potential causes of the accident. I understand well the desire for answers. As the Director of Army Aviation and a senior Army aviator, there is nothing more important to me than the capability, proficiency, and safety of our air crews and those whom they transport and support in defense of this Nation. And I am also personally invested in the safety of our commercial aviation enterprise, as I live with an airline pilot, and her safety and the safety of her passengers is paramount to me, as well. Which is why it is essential that we see this investigation through to its fruition so we can have well-informed, facts-based conclusions to make desired change, when needed.

But where prudent, the Army is not waiting to take action. Immediately after the accident, the 12th Aviation Battalion paused all operations. They have only recently resumed flights, and only outside the 7 nautical mile radius of DCA, with the exception of flights directly supporting the Secretary of Defense and the Chairman of the Joint Chiefs, and that remains true today. The Army continues

to fully comply with all FAA restrictions on helicopter traffic over the Potomac River near DCA.

The Army is actively participating, along with other military services and agencies, with an FAA-led working group to redesign the Route 4 helicopter corridor, as recommended by the NTSB in its preliminary report.

We have also issued interim guidance to elevate the approval authority to operate with ADS–B Off. The Army is fully committed to a transparent and collaborative review of the events of January 29 and of all operations in the vicinity of DCA. We support any and all efforts to ensure a tragedy such as this never occurs again.

Thank you for the opportunity to appear before this Committee, and I look forward to answering your questions.

[The prepared statement of General Braman follows:]

PREPARED STATEMENT OF BRIGADIER GENERAL MATTHEW W. BRAMAN

INTRODUCTION

Chairman Moran, Ranking Member Duckworth, distinguished members of the subcommittee, thank you for the opportunity to appear before you today to discuss the accident that occurred between an Army UH–60 Black Hawk helicopter, call sign Priority Air Transport (PAT) 25, and American Airlines Flight #5342, operated by PSA Airlines in the vicinity of Reagan National Airport.

First and foremost, on behalf of Army leadership, and our fellow Soldiers, we send our continued condolences to all those affected by this tragedy. We thank the professional work of the first responders and the countless Federal, State, and local agencies that responded to the crash site and aided in the recovery effort. Specifically, I want to thank the National Transportation Safety Board (NTSB) for continuing to conduct a thorough investigation and facilitating a close and transparent working relationship with the Army. I will defer to NTSB on questions specific to the ongoing investigation, but I can offer the Army perspective on the preliminary report and provide clarifying information on Army helicopter operations in the National Capital Region (NCR) in general.

TAAB HELICOPTER PROCEDURES

The Army Aviation Brigade (TAAB) operates at Fort Belvoir, Virginia, and includes the 12th Aviation Battalion, which provides continuous, responsive rotary wing aviation support to senior military and government leaders in the NCR to enable continuity of government operations and defense support of civil authorities. The unit has operated in the Washington, D.C. Metropolitan area since 1957, flying on average 5,800 hours annually, the bulk of which—80 percent—are mission rehearsals, exercises, and individual crew flights to build proficiency for their assigned mission.

The term "training flight" has been frequently used to describe PAT 25's mission on January 29th and does appear to be a source of some confusion. For clarity, a "training flight" in military vernacular is a general term used to refer to any flight that is not performing directed mission support. For TAAB aircrews, "training flights" refer to unit-led mission practice, mission validation flights with external agencies, and flights to build readiness and proficiency to execute TAAB's mission. TAAB training flights may involve operating at sensitive locations. New Army pilots learn to fly at Fort Novosel, Alabama, where they complete an initial course in a trainer helicopter before advancing to graduate level courses in the advanced airframes they'll operate when they join their units. Pilots who join TAAB are already qualified pilots prior to their arrival to the unit.

All TAAB aircrews receive unit-tailored academic and flight training to ensure an understanding of routing and zone structure to conduct flight duties within the NCR, as well as the Federal Aviation Administration (FAA)-required academic training to operate in the Washington, D.C. Special Flight Rules Area (SFRA). The regulatory requirements are routinely reviewed, and aircrews are tested annually to maintain proficiency and currency. It is a mandatory Army requirement for aircrews to conduct day, night, and night-vision goggle (NVG) flights in the local area to ensure readiness to support TAAB's 24-hour mission. TAAB aircrews are also re-

quired to conduct an annual proficiency and readiness test (APART) all Army aircrews must complete in order to evaluate individual and crew proficiency.

All TAAB aircraft meet the requirements to operate within the Class B airspace and helicopter routes in the Washington, D.C. SFRA and the Flight Restricted Zone (FRZ). When operating in the D.C. area, all TAAB operations are under positive control by designated FAA facilities within the SFRA and FRZ.

The Army is one of dozens of organizations that fly helicopters in the NCR. A 2021 Government Accountability Office (GAO) Report on Helicopter Noise Concerns (GAO–21–200) found between 2017 and 2019 over 50 helicopter operators conducted approximately 88,000 helicopter flights within 30 miles of DCA. Of those, 32,890 (37.4 percent) were conducted by the military.

PAT 25

PAT 25 was a UH–60L Black Hawk helicopter assigned to 12th Battalion, TAAB, operating at Davidson Army Airfield, Fort Belvoir, Virginia. The crew of three were fully qualified to fly in the local area. The Pilot-In-Command, Chief Warrant Officer 2 Andrew Eaves, was a unit Instructor Pilot. The Co-Pilot, Captain Rebecca Lobach, was also a qualified Pilot-In-Command, and the Crew Chief, Staff Sergeant Ryan O'Hara, was a Standardization Flight Instructor.

The night of January 29, 2025, PAT 25 was conducting an APART on Captain Lobach. The flight included operations in and around the D.C. Metropolitan area and the aircraft was transiting south to Fort Belvoir via the FAA-established helicopter routes when the accident occurred.

During an APART, the evaluated crew member could expect to fly under day, night unaided, and NVG modes of flight.

ARMY ADS–B POLICY

The use of Automatic Dependent Surveillance-Broadcast (ADS–B)-Out transponders is an FAA requirement for operating in Class B airspace and all TAAB aircraft are equipped with ADS–B-Out systems. However, due to the proliferation over the past decade of flight tracking software capable of collecting sensitive flight data available to the public, the FAA published an exception, removing its ADS–B transmission requirement for sensitive operations conducted by Federal, State, and local government entities in matters of national defense, homeland security, intelligence, and law enforcement when transmitting would compromise the operations security of the mission or pose a safety risk to the aircraft, crew, or people and property in the air or on the ground.

At the time of the accident, Army policy was to restrict ADS–B Out-Off operations to sensitive or classified missions and require Commanders with moderate risk approval authority—which at the time could be delegated to low-risk approval authority—to determine when and whether ADS–B Out-Off operations are required. Army policy does not authorize ADS–B Out-Off operations for routine, non-sensitive, or non-classified missions and always requires aircrews conducting ADS–B Out-Off operations to operate their transponder in Mode 3 A/C which emits information required by air traffic services but with less identifying information. Mode S transponders present similar operational security concerns as ADS–B and its use is subject to the same Army policy.

Aircraft Operating with ADS–B Out-Off but with Mode 3 A/C On are visible to Air Traffic Control (ATC) and other aircraft in the vicinity that are equipped with Traffic Collision Awareness Systems (TCAS). NTSB is still investigating whether PAT 25's ADS–B-Out system was operating as designed, not programmed, or turned off at the time of the accident.

ARMY INTERIM RESPONSE

Immediately following the accident, the 12th Aviation Battalion paused all operations to allow Army and unit leaders the time required to adequately assess mission requirements. On February 10, the 12th Aviation Battalion returned to flight operations with Army-emplaced limitations on flights around the Pentagon and Reagan National Airport. The Army is reviewing NTSB's preliminary report and is currently reviewing all Army helicopter operations in the NCR, to include its Department of Defense mission requirements.

The Army has also issued interim guidance to the force to elevate the level of risk approval authority to operate with ADS–B Out-Off and will formally update its policy as the NTSB-led investigation continues. The Army is also investigating the utilization of the Army's current policy by the TAAB to determine the frequency with

which the unit operated with ADS–B Out-Off and whether the policy was applied correctly.

CLOSING

The Army is committed to a transparent and collaborative review of the events of January 29th and of helicopter operations in the vicinity of Reagan National Airport. I have reviewed NTSB's preliminary report, and I assess that implementing its findings and recommendations would not negatively affect Army helicopter operations. The Army along with other military Services and other agencies that operate helicopters in the NCR will participate in an FAA-led working group to develop a new helicopter route that supports national security, law enforcement, and medical helicopter flight operations. This new route will replace the legacy Route 4, enhancing efficiency for critical missions while maintaining the highest safety standards as recommended by NTSB in the preliminary report.

We are working to ensure any actions we take in response to the accident are fully informed by fact-based conclusions that come out of the investigations which are ongoing. When the NTSB and Army investigations are complete, the Army is prepared to evaluate and comply where able with future recommendations to mitigate risk while operating in the NCR and other areas with congested airspace. We fully support all efforts to ensure a tragedy such as this is never repeated.

Thank you again for this opportunity to appear before the committee and I look forward to answering your questions.

Senator MORAN. Thank you, General.

Let me begin by asking witnesses questions, and then we will rotate, alternate, between Republicans and Democrats, based upon time of arrival after the leadership of the Committee has their opportunity to ask their questions.

Chair Homendy, let me begin with you. First of all, I am interested in learning about the occurrences that have been described, I described in my opening statement, about near misses and occurrences, TCAS advisories that occurred on numerous occasions over a long period of time. And what I hope you—and I will ask the Administrator of the FAA these questions—but I would like to know what did people know, when did they know it, and why didn't someone do something about it?

In asking you about this topic, is the information that is collected by the FAA, that is where these statistics that we have each mentioned, that is where they come from. Is that true?

Ms. HOMENDY. There were different sources of information, some which was FAA, some of which are voluntary safety reporting programs.

Senator MORAN. And those voluntary safety reporting programs, it is voluntary reporting to the FAA?

Ms. HOMENDY. Yes.

Senator MORAN. So I want to give you the chance.

Ms. HOMENDY. Yes.

Senator MORAN. So the information that has been described here about those events over a long period of time, is utilized by you but housed at the FAA?

Ms. HOMENDY. I believe through a contractor, but yes.

Senator MORAN. And do you know at this point whether that information was reviewed in a regular manner? Have you investigated why information that seems so important did not result in changes in policy, rules, or regulations?

Ms. HOMENDY. I do not know why. What I will say is this was a data request, came from a data request from the NTSB. We made that with the FAA and received information from the Aviation

Safety Action Program, ASAP, from ATSAP, which is Air Traffic Control, from Mandatory Occurrence Reports, and we also received information from FAA surveillance data, from radar.

But this was a request from us, and that resulted in our evaluation of that data and our urgent safety recommendations. I do not know if the FAA pulled that data themselves at any point, and I would have to defer to the Acting Administrator on that.

Senator MORAN. That information was so valuable, so important, so critical, that that is the reason you asked for the immediate changes in safety regulations. True?

Ms. HOMENDY. Yes. And, you know, there does seem to be an issue with identifying emerging trends. There is a lot of data going to FAA, and taking that data and looking at trends and not specific issues I think is something not only the IG has raised but others have raised, even the Acting Administrator has raised, about having to do a better job with analyzing those trends.

But it is key, because if we can get it after an accident occurs, what is key is getting it before and preventing it.

Senator MORAN. This is the wake-up call that suggests whether changes need to be made. Correct?

Ms. HOMENDY. Correct.

Senator MORAN. Administrator, I am interested in asking you the same series of questions. What did the FAA know prior to this accident, when did they know it, and why wasn't some action taken to encourage and, in fact, increase the safety, particularly at an airport like DCA, and maybe others, and the proximity between helicopter and commercial air service traffic.

Mr. ROCHELEAU. Yes, sir. So I am very concerned about what we have learned in the subsequent investigation, both from the NTSB as well as our own reviews that we immediately took. Clearly, something was missed. I would say immediately after the event we took the action—again, I referenced earlier, under Secretary Duffy's leadership, to restrict air traffic in that area, to ensure there was no helicopter traffic as well as fixed-wing.

Senator MORAN. My question is what did not happen at the FAA that would have highlighted this problem earlier, at the time in which this information is acquired by the FAA, but apparently not looked at until the accident?

Mr. ROCHELEAU. So there is an ongoing review all the time of the data that is available. As the Chair mentioned, there are millions of pieces of data that come in, and I would tell you that we have verified every single near-midair collision was investigated. But there are certainly those instances where the information itself was not identified. And that is why we put artificial intelligence and machine learning in place now, to ensure that we are able to go through tens of millions of pieces of data to identify those trends and act quickly to mitigate those risks.

Senator MORAN. There is no question but had this information been utilized by the FAA or others that steps could have been taken to make certain that flying, particularly again, in the circumstance of helicopters and commercial aviation, at a place like Reagan National Airport, there would have been an opportunity to do something had that information actually been known and acted on. True?

Mr. ROCHELEAU. Yes, sir. That is correct.

Senator MORAN. Thank you. Senator Duckworth.

Senator DUCKWORTH. Thank you, Mr. Chairman. Following up on the Chairman's questions, this is also my first question. Mr. Rocheleau, can you tell me if this new methodology, using the AI or whatever other methodology you are using to look at the aggregate data, is being applied to other airports where there is close helicopter traffic in proximity to commercial aircraft?

Mr. ROCHELEAU. Yes, Senator, it is. We have 10 locations around the United States, including Alaska, Anchorage, that we are looking through right now, what we are referring to as hotspots, to look at similar trends, similar activities, as it relates to fixed-wing and helicopter operations.

Senator DUCKWORTH. Is this methodology of reviewing aggregate data going to be applied nationwide, not just in this particular area, but to look at the overall trends of near misses at other airports, not just between fixed-wing and rotary-wing?

Mr. ROCHELEAU. Yes, ma'am. There are three activities going on right now. First, the hotspots I referred to. Second is kind of a nationwide use of this review and use of this new capability that we have just admitted. And then, of course, the ongoing analysis and how we are doing that with our industry partners as well as the military.

Senator DUCKWORTH. Thank you. According to NTSB, between, as you have said, between October 2021 and December 2024, there were more than 15,000 instances of commercial aircraft coming close to helicopters. Eighty-five of those had vertical separation of less than 200 feet.

General Braman, do you know how many of those 85 close calls involved Army helicopters?

General BRAMAN. Ranking Member Duckworth, we do not.

Senator DUCKWORTH. Can you tell me why that is?

General BRAMAN. That data, in those databases, is currently not shared, but certainly the Army is interested in becoming part of an opportunity to share data, because that is relevant to our safety, as well.

Senator DUCKWORTH. Mr. Rocheleau, will the FAA commit to sharing that data with the Army?

Mr. ROCHELEAU. Yes, ma'am, we will.

Senator DUCKWORTH. Thank you.

Ms. HOMENDY. We have also asked for that information, and we are going to share it as part of our investigation with all the parties.

Senator DUCKWORTH. And I think this needs to be ongoing into the future, so that especially the military aircraft that are flying, rotary-wing, within close vicinity—these folks should be getting this data, and we can do that, moving forward.

General Braman, can you explain the Army's rationale for its policy that gives commanders discretion to determine how many crew chiefs are needed for a particular mission? I think it is important. I do not think that the civilian population understands the extent to which the Army does risk assessment and risk mitigation and risk analysis and that process. I think it would be important.

And how are you going to be implementing that process, moving forward?

General BRAMAN. Thank you, Ranking Member Duckworth. I realize that I have broad authority as the Army Aviation Regulation proponent to direct how every aircraft and every operator conducts their mission. And I am not afraid to take that authority and use it, when appropriate. The reality is the best individuals we have to assess the risk of every single flight are our unit commanders, because we hold them responsible. They have the authority, the responsibility, and we hold them responsible to take any mission that they authorize, look at the factors involved, understand the people assigned to their organization, and adapt that crew to meet those requirements. And certainly that is something that will be looked at in this investigation—do we do that? And we will hold commanders accountable if they fail to uphold that responsibility.

Senator DUCKWORTH. Can you speak to, if a risk assessment for a particular mission comes in at medium or high risk, how the approval authority of that changes? Because you mentioned approval authority for the DCA area has been raised higher for ADS–B Out. Correct?

General BRAMAN. Yes, Senator. All missions go through an initial approval process. So a commander has to authorize a reason for an aircraft to fly. At the completion of that authorization the crew then assesses all the known and expected risks associated with the mission they have been tasked to do. That discussion involves a third party, a senior officer, a senior aviator within the organization, and then assesses that risk and directs the crew to make any changes to mitigate anything that either that briefing officer understands, based on their experience. And then when those things are implemented it goes back to a commander, who must authorize every single flight.

So in the occurrence of things like ADS–B Out operations, that authority resides with a medium-risk authority. So a battalion commander must approve that mission, in particular, and in this case the policy allowed that to be delegated down to a company commander, and they must approve that it meets the standards of the policy completely.

We have not elevated that risk to high risk. That requires an O6 commander to approve any mission that has ADS–B Off.

Senator DUCKWORTH. Mr. Chairman, I am going to ask your indulgence for an extra 30 seconds, because my next question I think applies to everybody here, and I think people will be interested.

Senator MORAN. Please proceed.

Senator DUCKWORTH. Thank you. This is for the FAA. I am hearing that there is a backlog of air traffic controllers waiting to get their FAA medicals approved so that they can return to duty. And we have an air traffic controller shortage right now. I think in the Chicagoland area there is about a dozen air traffic controllers who are waiting for, you know, they got new medication, whatever it is. But they are waiting as long as 12 to 18 months to get an appointment or to get a ruling from the FAA medical office so that they can actually get back on the job. And they are just sitting there, not able to do their job.

And I think this is problem at all of the major airports around the country. I am sure every one of us has air traffic controllers waiting to be put back onto duty, and they can't because of the backlog with the FAA medical system. Can you speak to that? And if I give you a list of my air traffic controllers who have been waiting, will you take a look at those folks and make sure that their medical issues are addressed, so we can get them back on the job?

Mr. ROCHELEAU. Yes, Senator, I commit to that.

Senator MORAN. Chairman Cruz.

Chairman CRUZ. Thank you, Mr. Chairman. On March 1, multiple commercial aircraft landing at DCA reported receiving a Traffic Alert and Collision Avoidance System, TCAS Resolution Advisories, as they were preparing to land, advising pilots of an impending threat from above, and in some cases directing the crews to take evasive action by descending. I think we were all alarmed that just a few weeks after the tragedy, commercial pilots were being told they were at imminent risk of a deadly midair collision.

It has now come to my attention that these warnings were caused by the Secret Service and the U.S. Navy improperly testing counter-drone technology at DCA. Apparently, the Navy was using the same spectrum band as TCAS, causing the interference and faulty resolution advisories, even though the FAA had previously warned the Navy and the Secret Service against using that specific spectrum band due to interference risks.

Acting Administrator Rocheleau, is that correct?

Mr. ROCHELEAU. Yes, sir, that is correct.

Chairman CRUZ. Let me just say this is deeply disturbing that just a month after 67 people died while on approach to DCA that the Secret Service and Pentagon would inadvertently cause multiple flights to receive urgent cockpit alerts recommending evasive action. It is inappropriate for such testing to occur at DCA, given the facts of what occurred, and I expect this Committee to investigate why precisely that happened.

General Braman, I want to turn to your testimony. On March 11, Chairman Moran and I sent you a letter asking a series of very specific questions. This week, the Army responded with a one-page information paper. However, there were specific questions in the letter that were not answered. I want to turn to them now.

We asked you specifically how frequently does the Army turn of ADS–B Out transmission?

General BRAMAN. Chairman Cruz, as I stated in the discussion about how we approve the missions, a mission would have to fall into the category, as defined in the Federal regulation and Army policy. It must have national security implications and be sensitive in nature to be able to do that mission.

Chairman CRUZ. General, you are not answering my question. My question is how frequently is ADS–B Out turned off? I wasn't asking what the standard is. I was asking the frequency.

General BRAMAN. I can take the number for record, Senator. But I can tell you the types of missions and the majority of the missions they fly are missions associated with that national security mission.

Chairman CRUZ. Is it accurate that ADS–B Out is turned off for 100 percent of missions flown by the Army Air Brigade at Fort Belvoir?

General BRAMAN. Senator, I think you are referring to the June 8th letter from the Joint Staff to Representative Norton. In the context of missions, meaning the operations that the 12th Aviation supports in their mission requirements, I would say that is an accurate statement. I would not say that is an accurate statement of 100 percent of the flights being flown by that organization.

Chairman CRUZ. OK. So I want to understand what you mean by "missions." Does "missions" capture training flights?

General BRAMAN. Only training flights that would have been operating in a location that is sensitive, as part of their continuity of government operations.

Chairman CRUZ. Well, that would be all of them around DCA. Is that correct?

General BRAMAN. Only specific sites that are part of that continuity of government operation.

Chairman CRUZ. In your one-pager you said 75 percent of the flights are mission rehearsal readiness flights. Are those operated with ADS–B Out?

General BRAMAN. They are, Senator, yes.

Chairman CRUZ. So right now, today, the Army is flying helicopters in and around DCA airport with ADS–B Out turned off. Is that correct?

General BRAMAN. When conducting their NORTHCOM-directed mission, that is correct.

Chairman CRUZ. I have to say, I find that shocking and deeply unacceptable. And I want to encourage the Army right now to revisit that policy, and to revisit that policy today. And I can tell you, if the Army chooses not to, I have a high level of confidence that Congress will pass legislation mandating that you revisit the policy. If today another accident occurs over DCA, with another helicopter that has ADS–B Out turned off, the Army will have very direct responsibility for that. And I am at a loss to come up with any justification for risking the lives of the traveling public with that decision. You cannot change the decisions made yesterday, but you can change decisions made forward.

It is my understanding the Army has a memo, August 9, 2024, entitled, "ADS–B Out Off operations in the National Airspace." My staff requested that memo from you, and my understanding is your team declined to provide it. That is also unacceptable. I want to ask you at this hearing, will you commit to providing that memo to this Committee?

General BRAMAN. Senator, I will commit to reviewing the information and getting what we can to you, absolutely.

Chairman CRUZ. That answer needs to be a yes, that you will provide that memo to this Committee.

General BRAMAN. Senator, I will review that and we will look at the ability to give it to the Committee, absolutely.

Chairman CRUZ. If it is not provided to this Committee within 24 hours, I am confident that you will have a senior commanding officer give you a direct order to provide that memo to this Committee.

And I just want to underscore there is no reason the Army has to wait for the conclusion of the NTSB report to revisit your policy on ADS–B Out. You can do so right now. And I have got to tell you, I spent this morning looking in the eyes of family members who lost family members. I do not know how I would do it tomorrow, to another room of family members who lost loved ones, because yet another helicopter was flying with ADS–B Out. And so I cannot urge you more strongly, change that policy right now.

Senator MORAN. Senator Cantwell.

Senator CANTWELL. Thank you, Mr. Chairman, and I too have asked for the same memo, so I want to follow on in the same line as Senator Cruz. I also want to associate myself with the information you are requesting on spectrum interference. This is one of the reasons why I think spectrum and spectrum fights are so important is because I think the agencies with adjacency and issues, we cannot leave this up to the flying public.

But I want to go back, because Brigadier General, you mentioned in your testimony we now have the additive dialogue that we just heard, but you said it is not allowed. You are saying it is not allowed. ADS–B Out was not allowed. That is what you said earlier. Is that in your testimony? In addition to the Holmes letter, you basically stated that using ADS–B Out, it was not allowed.

General BRAMAN. Army policy is ADS–B Out is not to be used for routine use.

Senator CANTWELL. OK. So Acting Administrator, did you know this? Did the FAA know this? Did the FAA know and understand and absorb this? Did you know that you were allowing a flight to go within 75 feet of each other and there was no signaling message that we have already identified as a safety measure, is something that we have had as a requirement?

Mr. ROCHELEAU. So I understand the FAA was aware of this. We have an existing memorandum of agreement with the Department of Defense——

Senator CANTWELL. Did you know it was 100 percent, as the Eleanor Holmes Norton and as—the Brigadier General is pretty clear this morning, we don't allow it, even to the point of not answering Senator Cruz when they are going to change it. Because I am pretty sure their attitude is going to be, "We don't allow it." He is going to say he would rather have a route somewhere where he can fly without it. That is what he is going to say. And so, you know, that is a separate issue over here.

Our job, though, is the FAA oversight, and you cannot give exemptions to things that you do not understand. So he, in their application, kind of made it sound like, well, it is not going to be that routine. But he is very clear, they are never turning it on if they do not have to. They are never turning it on.

So what I do not understand is why the FAA did not understand that? Why you would allow this design—this is the wrong design. Whoever said you could fly in this airspace this close together, without a safety feature that was already being required by the FAA, and then giving them an exemption makes no sense. So why did you allow it to happen?

Mr. ROCHELEAU. So I cannot speak to why the previous administration may have allowed for that memorandum of agreement,

which is why we, effective today, will require, in any DCA Class B airspace, ADS–B Out to be turned on, except in very limited circumstances.

Senator CANTWELL. What are those other limited circumstances? Other agencies? Is there any other agency that is doing this?

Mr. ROCHELEAU. So we have 46 different helicopter operators within the National Capital Region, but again, DCA Class B airspace will now require ADS–B On to be out.

Senator CANTWELL. What other agencies are operating this way?

Mr. ROCHELEAU. So we have certainly a number of military units. We have local law enforcement. We certainly have the Department of Justice and FBI. We have a number of different agencies that fly, the Park Police, and those are the entities that we are working with closely now, to make sure, first and foremost, they understand the new restrictions that we have in the airspace.

Senator CANTWELL. Do they have exemptions?

Mr. ROCHELEAU. Some of them do.

Senator CANTWELL. Are you concerned about this?

Mr. ROCHELEAU. Absolutely, which is why we immediately put in place the requirement to have ADS–B Out on.

Senator CANTWELL. And so you think they are operating that way?

Mr. ROCHELEAU. Yes, ma'am.

Senator CANTWELL. You think that Homeland Security is operating that way?

Mr. ROCHELEAU. Effective today, they will be operating with ADS–B On.

Senator CANTWELL. Effective today?

Mr. ROCHELEAU. Yes, ma'am.

Senator CANTWELL. So over the last month you have known, as I am going to submit for the record, a letter from the Department of Homeland Security, that basically says under the Federal Aviation waiver, all U.S. Customs and Border Protection air and marine operations in the Capital Region basically have this exemption, as well.

[The information referred to follows:]

Assistant Secretary for Legislative Affairs
U.S. Department of Homeland Security
Washington, DC 20528

Homeland Security

July 10, 2023

The Honorable Eleanor Holmes Norton
U.S. House of Representatives
Washington, DC 20515

Dear Congresswoman Holmes Norton:

Thank you for your May 17, 2023, letter to the Department of Homeland Security (DHS) regarding federal government helicopters in the District of Columbia disabling their Extended Squitter Automatic Dependent Surveillance-Broadcast (ADS-B) transponders for flights. I am responding on behalf of the Department.

Under a Federal Aviation Administration waiver, all of U.S. Customs and Border Protection's Air and Marine Operations flights in the National Capital Region (NCR) Special Flight Rules Area (SFRA) are ADS-B inhibited for a specific national security sensitive mission. Mission classifications are assigned and briefed to the crews at the local level regardless of flights inside or outside of the SFRA. All flights within the NCR are under positive air traffic control.

This in no way compromises flight safety. The ADS-B transponder is not disabled; rather, only that portion of the signal that identifies the agency and other sensitive information that can be tracked by third parties is disabled. Those portions of the signal that the FAA uses for tracking, identification, and altitude deconfliction are still transmitted and active, as is the onboard Traffic Collision Avoidance System.

A separate response addressing U.S. Coast Guard helicopters will be provided by North American Aerospace Defense Command.

Thank you again for your letter and your interest in this important issue. Should you have additional questions, please contact the DHS Office of Legislative Affairs at (202) 447-5890.

Respectfully,

Zephranie Buetow
Assistant Secretary for Legislative Affairs

Mr. ROCHELEAU. So they haven't had——

Senator CANTWELL. So I want to understand if people were still flying in this airspace, we all fly in and out of this airspace. Do we now have to worry about other operators in this airspace that may be doing the same thing as happened with the military? And now you are telling me you are going to take action today?

Mr. ROCHELEAU. I should clarify. Immediately after the accident we put the restrictions in place so that no mixed traffic could occur—no helicopters and fixed-wing in the same airspace. Today, we are requiring the ADS–B Out to be on. So previous to this day, the fixed-wing as well as helicopters were not allowed in the airspace. So we cleared the complexity of that area.

Senator CANTWELL. Now today you are going to say to Homeland Security you have to have ADS–B, basically the Automatic Surveillance Broadcast System has to be on. You are going to make that today?

Mr. ROCHELEAU. That is correct.

Senator CANTWELL. Well, I would——

Mr. ROCHELEAU. Or any or the Class B airspace that you can see in the graphic, in that red airspace, that is required.

Senator CANTWELL. Acting Administrator, you are not building faith in this system of oversight of the FAA if you are telling me that we now have a bunch of other operators in this airspace that you now said after the accident were prohibited. But now you are going to turn it back on, and if they meet this requirement. And we have letters from them, thinking that they are exempted. I want to see this rule. This would have been a great debate with Mr. Bradbury before the Committee.

Because the American people, these poor families have lost loved ones. This is not their day job. It is your day job. It is the day job of the FAA not to allow these exemptions to become prolific and everybody use them, and then us have to sit here and figure out how to do our oversight job of you, to make sure that these details are exposed, when we cannot even get a memo from some of these agencies.

So, Mr. Chairman, I know my time has expired, but I will come for a second round with the witnesses, because I think it is clear. The NTSB has been very clear on the requirements for ADS–B In, and in this case if they would have listened to them—it is $40,000 to equip—I am sorry, it is $20,000 to equip one plane. You could probably equip the whole fleet of aviation for $100 million. I guarantee you their lives, the family lives are worth that.

Thank you, Mr. Chairman.

Senator MORAN. Before recognizing Senator Budd, does the FAA, Mr. Rocheleau, does it have the authority to supersede the operations of the Army and these other agencies in the airspace around airports? We have not gotten the Army to say they are going to do this with their own policy, but you say you are mandating it. Do we know that the Army and others have to follow your mandate?

Mr. ROCHELEAU. Yes, sir, they do.

Senator MORAN. OK. Senator Budd.

STATEMENT OF HON. TED BUDD,
U.S. SENATOR FROM NORTH CAROLINA

Senator BUDD. Thank you. First and foremost, I want to offer my condolences and prayers to all the families that are here today. I am saddened that so many North Carolinians were lost in this accident, including Captain Rebecca Lobach and the four members of 5342's Charlotte-based flight crew: Samuel Lilly, Jonathan Campos, Danasia Elder, and Ian Epstein. Senator Moran, I am sorry for the loss of so many Kansans, as well, in this incident, and I want to thank you for organizing this hearing.

Chair Homendy, thanks for your work so far. On page 9 of the preliminary report it states that the MPFR, the multifunction flight recorder's reading for pressure altitude conflicted with other altitude's readings. Ultimately, this conflict led your team to invalidate the pressure altitude reading provided by the recorder.

Can you provide any details on the differing altitude readings, and do you have any update on whether this conflicting data was limited to the MPFR or if that was provided to the flight crew and perhaps was a confusing factor?

Ms. HOMENDY. We are still looking into that and doing some testing. What I will say is the pressure altitude was determined invalid on the Black Hawk because we would expect that to be somewhat similar to the CRJ. But it was much lower, so we determined that that was invalid, and it could not be used to calculate the barometric altitude. We would need two sets of data, which was pressure altitude and barometric pressure setting. We had the pressure setting. We do not have the pressure altitude data for that. So we were not able to determine from that what the barometric altitude was of the Black Hawk. However, we are looking at other data.

Senator BUDD. OK. Thank you. General Braman, PAT 25 was operating out of Davidson Army Airfield on a pilot annual standardization mission at the time of the collision. Given the concentration of senior military and civilian officials surrounding DCA, how vital are these missions to readiness for continuity of government operations?

General BRAMAN. Senator, they are extremely vital. To go back to Senator Cruz's question about how many flights, 75 percent of the missions flown by the 12th Aviation Battalion are in direct support of the continuity of government rehearsals, exercises, and making sure crews are familiar with how to get that mission accomplished. And they stand ready every single day in a 15-minute alert stream to do that mission.

Senator BUDD. Thank you, General. Can the Army continue to fulfill its priority air transport missions without access to Route 1 and Route 4?

General BRAMAN. The Army, the fact that we are in the working groups will allow us to help influence routing, that will allow us to continue to do that mission, and I am confident we can do that.

Senator BUDD. Thank you. Chair Homendy again, in your view, is the permanent closure of Route 4 the only solution that allows for continued operations of both rotary and fixed-wing aircraft around DCA?

Ms. HOMENDY. And it is permanent closure when Runway 15 and Runway 33 are in use. That was our recommendation to the FAA.

Senator BUDD. Thank you. Administrator Rocheleau, the aviation investigation report from the NTSB shows that the separation between aircraft on approach to Runway 33 would have a mere 75 feet of separation from a helicopter operating on Route 4 and hugging the shoreline of the east bank of the Potomac. Was the FAA aware of this conflict prior to January 29, and given the insufficient vertical separation that we are talking about, was the FAA relying solely on controllers in the DCA tower to deconflict the approach to Runway 33?

Mr. ROCHELEAU. So the FAA was aware of the design of that airspace in advance of December [sic] 29th. I would say that is one of the reasons why we immediately restricted that airspace after the incident, to review the circumstances around the airspace itself. In addition to that, it is one of the reasons why we are looking at hotspots or mixed traffic areas around the nation, whether that is Boston, Dallas, L.A., and Anchorage.

Senator BUDD. Thank you.

Ms. HOMENDY. Senator, can I——

Senator BUDD. Please.

Ms. HOMENDY. There is a D.C. Helicopter Working Group that we have been trying to figure out who is part of the working group and get minutes and get documents from that working group to see what information was shared and what was discussed over the years. We have not been able to attain that yet, and I hope we can, from FAA and others.

Senator BUDD. Are you a part of that working group?

Ms. HOMENDY. We are not part of that working group.

Senator BUDD. But you have access to it, and they are willing to provide what they find.

Ms. HOMENDY. We have requested information. We have not even been able to identify who is part of the working group firmly and get documents as part of that working group. We have requested all of that information because we do want to evaluate what was discussed. We are also going to interview the FAA cartographers on how this route was mapped, because that 75 feet is max. That is the maximum. It goes down from there as commercial aircraft approach Runway 33.

Senator BUDD. Thank you.

Senator MORAN. So let me see if I can help Senator Homendy, Chairman Homendy.

Ms. HOMENDY. That is a very hard job.

Senator MORAN. You are very good at public relations with Senators, but we recognize the challenges you face.

So do either one of you belong to this working group? Does the Army or the FAA participate, and can you answer that so the NTSB can pursue information?

Ms. HOMENDY. I mean, it is the FAA's working group.

Senator MORAN. It is the FAA's working group. All right. Mr. Rocheleau, what is the problem here?

Mr. ROCHELEAU. I am happy to work with the Chair. We have been working extremely closely together on this investigation, and I am happy to work with the Chair and understand why she has not received that information, and make sure we follow up on that.

Senator MORAN. Can you think of any reason that the NTSB should not be a part of that information, Mr. Rocheleau?

Mr. ROCHELEAU. Off the top of my head I cannot. I do not know why they would be restricted in that, and I certainly will talk to my folks when we get back.

Senator MORAN. Thank you.

Mr. ROCHELEAU. Yes, sir.

Senator MORAN. Should we ask, is the Army part of this working group, as well?

General BRAMAN. The Army is part of the working group. Yes, Senator.

Ms. HOMENDY. There are apparently 17 entities that are part of the working group. We just have not been able to verify who all the entities are.

Senator MORAN. Surely the FAA is in charge and they can help you.

Mr. ROCHELEAU. Surely I would have been happy to understand that before today.

Senator MORAN. General, do you know any reasons that the working group's efforts cannot be known by NTSB?

General BRAMAN. Absolutely not.

Senator MORAN. Thank you. Let me follow up. Mr. Rocheleau indicated that the FAA does have the authority to require ADS–B Out. Do you agree with that assessment that the FAA can make this decision, and if you do not follow the FAA policies then you are precluded from the airspace?

General BRAMAN. Chairman, the Army operates 100 percent under FAA authority.

Senator MORAN. Very good. Let me turn to perhaps the next steps or new information, and to this I will go to Chair Homendy. Since the report that we are discussing here today is 2 weeks old, what has transpired, if anything, in those 2 weeks? Have you discovered any new and relevant information that you can share with us?

Ms. HOMENDY. Where would you like me to begin? One thing I can say on ADS–B Out Off, that is policy of the Army. But we are still looking at installation programming and potential for equipment malfunction. And the reason I mention this is because the accident helicopter, for this accident helicopter, no ADS–B data had been received from an FAA ground station for 730 days prior to the accident. And that was abnormal.

So we began looking at the fleet for the battalion. The battalion had 25 helicopters, that includes this particular helicopter. Nine of them were Mike models and all were transmitting ADS–B Out when they were turned on, because we have to verify that it is working.

There were 16 Limas, including the accident helicopter, which we are still looking at. But 7 were transmitting when ADS–B Out was turned on, 8 were not, and stopped doing so sometime between May and November 2023. We do not know why. Five of those started transmitting since the NTSB identified the issue and began working with the Army to try to isolate the reason.

So I just want to let you know that you can have ADS–B Out on, but you also have to make sure that it is working.

Senator MORAN. You indicated working with the Army, but there are other participants in this arena. Were you narrowing it to the Army as if something is necessarily wrong there, or more broadly there is a problem in receiving the information?

Ms. HOMENDY. For this, for the ADS–B Out on, we wanted to look at the helicopter fleet for the battalion, to see whether ADS–B Out on, when turned on, was actually transmitting data. Because we did think it was abnormal that for the helicopter involved in the accident, it was not transmitting data for so long.

Senator MORAN. Any explanation, General?

General BRAMAN. Chairman, this exactly is what the value of the investigation is. There are things that you would not normally look at that are being determined here, and that is certainly going to help us drive policy and any changes that we need to do as a result of the investigation, and certainly the NTSB has the expertise to do that.

Senator MORAN. So what we are hearing from Chair Homendy is that it may be transmitting, it may be on, but there is no receipt, there are, I don't know, technical problems in the process by which it is—it is not providing the information it is supposed to provide, right?

General BRAMAN. Chairman, obviously the functionality of any Army equipment, and certainly Army aviation equipment, is important to me. So if we are discovering there is a challenge there, we will take direct action, absolutely.

Senator MORAN. This is not an inconsequential thing, right?

Ms. HOMENDY. It is not, and I think for the public watching, because I think there are a lot of people watching, is ADS–B Out broadcast latitude, longitude, altitude, and velocity once per second. It updates once per second versus 4 to 6 seconds for radar, which is significant when you have converging aircraft.

Senator MORAN. Mr. Rocheleau, you indicated as of today there is a change in policy at FAA. I would be interested in knowing if that change in policy is only related to DCA airspace, or you are putting those requirements in place for other airports?

Mr. ROCHELEAU. Thank you, Senator. So the requirements that I announced today are effective for the D.C. Class B airspace immediately. Part of our ongoing work, as I related earlier, with respect to hotspots and the mixed traffic that we have seen that could be problematic are areas where we are looking at kind of adding that requirement in. It seems premature simply along the lines of the way airspace is structured in different locations that we need to focus before acting too quickly.

So we want to make sure that as we are looking at the different airspaces and how they are constructed that we are taking kind of intentional, careful action.

Senator MORAN. And that intentional action is underway.

Mr. ROCHELEAU. Yes, sir.

Senator MORAN. You are doing that at other airports today.

Mr. ROCHELEAU. Absolutely. And wherever we find a risk, we will mitigate that risk immediately.

Senator MORAN. Chairman Homendy, I asked you a question and I interrupted you, and it sounded like your answer would be

lengthy, of the things you have learned in the last 2 weeks. I will come back to you after recognizing the two Senators to my left.

Senator DUCKWORTH. Thank you, Mr. Chairman. I want to follow up on what Chairwoman Homendy is talking about, testing the ADS–B Out, whether it is actually transmitting data because the data was not received. Will we be able to check that with all of the other rotary wing operators that are in this region as well? Is that something that FAA should be mandating, that they could do that? I mean, you are not looking at the other operators because they are not part of this accident. Correct? So then my question for Mr. Rocheleau is, will the FAA be directing all of the other helicopter operators, whether it is Homeland Security, local law enforcement, who have this exemption to ADS–B Out? Will you be directing that they actually test their equipment to make sure that it is actually transmitting the data that can be received?

Mr. ROCHELEAU. Yes, Senator. I think that is part of our ongoing work and the collaboration between those operators and how we make sure they first and foremost understand the requirement, and second, that their equipment is functional.

Senator DUCKWORTH. OK. Thank you. I wanted to also follow up on my earlier questioning about the FAA's air traffic controller workforce. You had committed to looking at the list of names I gave you, that I will be giving you, for the air traffic controllers who are waiting for medical review. I would like for you to commit to reporting back to me in writing about how many controllers around the country are waiting for medical clearances so that they can return to work, and what the FAA is doing to make sure these medical reviews are happening in a timely manner.

Mr. ROCHELEAU. I will commit to that.

Senator DUCKWORTH. Thank you. In the race to hire more air traffic controllers—and the staffing was adequate on that evening but we could have used more air traffic controllers, obviously—and in the race to hire more air traffic controllers, I want to make sure the FAA does not lower your long-standing high standards for air traffic controllers. There could be a temptation to sacrifice effectiveness for efficiency, but the FAA must stick to its stringent standards to protect safety.

Can you assure this Committee that as the administration works to hire more air traffic controllers you will not, in any way, lower the high standards that are currently required for individuals to become certified air traffic controllers? And there are plenty of places, a lot of them are in, actually, Kansas, that have the expertise to help us train air traffic controllers, as long as we keep those high standards.

Mr. ROCHELEAU. One hundred percent. Part of our ongoing activity to surge in air traffic controller hiring is to look for the best and the brightest, and that is exactly what we are going to continue to do.

Senator DUCKWORTH. Thank you.

Senator MORAN. To follow up on Senator Duckworth, you should look to Kansas, and we welcome you.

I am going to turn to Senator Schmitt in just one second. General, the Senator from Illinois was asking about routine maintenance and determining whether equipment is working. Do you

have a standard in place? What Chairwoman Homendy said does not make sense to me that you would not know there were problems with the transmission or the equipment. Do you have a protocol in place, and is that equipment inspected on a continuing basis?

General BRAMAN. Certainly, Chairman, generally the aviation operations we have protocols for the status of aircraft. I will have to get back to you, take it for the record, on what the protocol is to ensure that ADS–B Out transmissions outside of the aircraft are being received. It is something I will have to look at, on how do we do that.

Senator MORAN. And whether protocol is being followed?

General BRAMAN. Absolutely.

Senator MORAN. Thank you. Senator Schmitt.

STATEMENT OF HON. ERIC SCHMITT,
U.S. SENATOR FROM MISSOURI

Senator SCHMITT. Thank you. Thank you, Mr. Chairman. And my friend from Illinois would agree. I certainly do not want to see us reduce standards. I guess in following in that same spirit, with Mr. Rocheleau, can you commit that no hiring decisions will be made based on race?

Mr. ROCHELEAU. Yes, sir. Again, we are looking for the best and the brightest, and we are prioritizing those who are best qualified.

Senator SCHMITT. Because as you know, there is a lawsuit by about a thousand folks who are claiming that they did not get a job because of their race, at the FAA.

Mr. ROCHELEAU. We are all about making sure the best and the brightest are there, and we do that through a grading mechanism.

Senator SCHMITT. That is great to hear. I did want to ask, General—and again, I apologize if this has been asked before. They are running us in and out of here, different committee hearings, Armed Services. I did want to ask, this was a very strong crew in the Black Hawk. Is it typical, I guess, is it a problem—is it typical and is it a problem to have someone who is a lower rank as the—and this is my understanding, that the evaluator was a lower rank than the pilot. Is that a typical situation? Is that problematic? Is that not a problem? Do you think it contributed in any way? I just wanted to get your assessment.

General BRAMAN. Thank you, Senator, for the question. It is extremely typical in Army aviation because the preponderance of our force is our warrant officers, and they are our professional aviators. That is what they do for their entire career. So they are instructor pilots, they are maintenance test pilots, safety officers, and our commissioned officers fill roles of leadership within the organization. So it is very routine to have a senior member being evaluated by a junior member.

Senator SCHMITT. OK. And I am sure you have gone through this analysis. I just feel like in the spirit of making sure we are getting this right, moving forward, that you do not think there is a systemic problem associated with maybe somebody with a lower rank saying something to somebody of a higher rank in those kinds of situations. You have gone through that analysis, I am assuming?

General BRAMAN. Absolutely. And the personalities of crew members and capabilities is something that is considered in that risk brief process for every single flight. Is it the right crew? Is the crew mixed properly? Commanders would know if there are issues with, as simple as they do not get along, and commanders will take that into account before approving any fight.

Senator SCHMITT. And I guess for the FAA—and again, maybe you have been asked this before—clearly in the Chairman's opening statement and a number of the Committee members, just the report, the statistics of the number of near misses between helicopters and aircraft landing at DCA, that, you know, those operations now have been halted. Can you just explain to the American people why that did not happen before?

Mr. ROCHELEAU. So, again, I will say that the reports that came in previously were certainly analyzed, but something was missed. And since that time, we have been using new tools available to us, artificial intelligence, machine learning, to be able to scan the tens of millions of data points, to be able to do that analysis in a more proactive and ideally at some point here, predictive way, to identify risks earlier and to mitigate that risk.

Senator SCHMITT. But this was not a new issue at DCA, right? This is an issue that had been a longstanding concern. Is that accurate?

Mr. ROCHELEAU. It is accurate. There were a number of reports that came in, and I would say that we, as I mentioned earlier, we investigate every single near-midair collision, and even as we talk about spectrum issues, Chairman Cruz mentioned, we have teams that go out and assess the airspace itself, making sure that we are working with partners, whether it is on counter-UAS technology, to make sure that airspace is as clean as possible from interference.

Senator SCHMITT. And so moving forward, obviously as a response to the tragedy that happened—and I would be remiss not to express my condolences to the families who are here. I know everyone has, and it is devastating for each and every one of you, including some folks from back home. So your advocacy does matter, and it will carry beyond today. This is important.

So I ask in the spirit of that. Moving forward then, is that how you see things, that the state of play as it is currently now will continue?

Mr. ROCHELEAU. Yes, sir. We will continue to use the latest tools we have to be able to assess that data and work with the industry, with the aviation ecosystem, if you will, to identify that risk early and to mitigate that risk immediately.

Senator SCHMITT. OK. Thank you, Mr. Chairman.

Senator MORAN. Thank you, Senator Schmitt. Mr. Rocheleau, at the moment, whether it is on or off is irrelevant because there are no flights—you are announcing something that does not, at the moment matter because you have not lifted the ban on the flights. Is that true?

Mr. ROCHELEAU. So it is helpful if I can just point to the graphic. In the graphic I can explain that in the yellow-sectioned area, the graphic there, that is where there is no mixed traffic—no helicopters, no fixed-wing—except for those very few circumstances where we have emergency, national security type of traffic.

In the red section, in that red airspace, is where ADS–B Out—so DCA Class B airspace is now required.

You will also notice where, based on the NTSB recommendations, where we have eliminated Route 4, going north to south on the Potomac, as well as Route 6, that formerly, you can see on the left side of the graphic, was in effect from the west to the east, where Bolling Air Force Base is.

Senator MORAN. I will have to think about that. Yes, sir.

Senator CANTWELL. Mr. Chairman, if I could, just for the record, because I see we have several colleagues——

Senator MORAN. Senator Cantwell, you are recognized.

Senator CANTWELL. Thank you, Mr. Chairman. Just to clarify on your point, Acting Administrator, we still have a rule that says they have an exemption, all sensitive. So I know you are making a declaration today, but I do not think that supersedes the rule. Now, maybe President Trump is going to call all these agencies and tell them to stand down, but legally, whatever the FAA is doing today, does not take precedent over that rule. So when I come back for a second round——

Senator DUCKWORTH. I believe the FAA has control over that airspace and they can say——

Senator CANTWELL. They can definitely shut it down. But as it relates to the rule, his decision just to say that you now have this requirement, that a rule gave them an exemption to.

Senator DUCKWORTH. I think you can issue an emergency directive. Is that correct?

Mr. ROCHELEAU. So the agreement we have in place with the helicopter operations that fly without ADS–B Out is an actual memorandum of agreement. It is not a formal rule. So it is an agreement we have with the Department of Defense and the other helicopter operators in the D.C. area.

Senator CANTWELL. And we can get a copy of that, the MOU?

Mr. ROCHELEAU. Yes.

Senator CANTWELL. Thank you.

Senator MORAN. Senator Hickenlooper.

STATEMENT OF HON. JOHN HICKENLOOPER, U.S. SENATOR FROM COLORADO

Senator HICKENLOOPER. Thank you, Mr. Chair. Mr. Rocheleau, you earlier testified that you have looked at the airports with higher volumes of mixed traffic. I think you mentioned Boston, Dallas, Anchorage. Is that assessment—have you gone through all the airports? I mean, does that mean that other airports in other large cities, or where we have a fair amount of mixed traffic, are OK?

Mr. ROCHELEAU. So we have 10 locations, a total of 21 airports. So we are doing this hotspot review, this mixed traffic review across the nation, including in the Anchorage area. So we are reviewing all the airspace designs to see where we may have this indicator of risk with mixed traffic, so helicopter operations as well as fixed wing.

Senator HICKENLOOPER. And so you mentioned Boston, Dallas, and Anchorage. That is not the full list, I assume.

Mr. ROCHELEAU. That is correct, sir.

Senator HICKENLOOPER. And so when will this be done?

Mr. ROCHELEAU. So obviously 21 locations, I am receiving regular updates. I anticipate that activity being concluded in the next couple of weeks. I will tell you that our teams, they are being very intentional about how they go through that airspace, because it has been built over time as it relates to helicopter routes and other approaches and departure routes.

So we are being very intentional, very careful. We do not want to move quickly, with inducing additional risk.

Senator HICKENLOOPER. I understand that. But obviously time is of the essence in a situation like this, making sure that even a preliminary warning as part of that assessment would be pretty valuable.

Mr. ROCHELEAU. And any indicator that there is an emerging risk, we would take immediate action.

Senator HICKENLOOPER. Ms. Homendy, you have, in the past talked about workforce and making sure that you are fully staffed, and I think this is a direct follow up on that. Are we fully staffed? I mean, you are going to look at this entire incident, and it is going to take the typical year and a half or two years, which, again, drives a lot of my constituents crazy. Do you have a timeline for when you will finish the full incident report, or whatever the legal description is, when that will happen?

Ms. HOMENDY. We have committed to 1 year, barring any unforeseen circumstances, but one year.

Senator HICKENLOOPER. And you have enough staffing on that?

Ms. HOMENDY. We have 40 experts at the NTSB that are currently leading this investigation. It is a high workload because it is not their only investigation that they are focused on. But they are very committed to this one. And then we have an entire agency that supports them.

Senator HICKENLOOPER. All right. We had an array of past reports. It varies dramatically. But I appreciate the fact that you are trying to accelerate this. I think it frustrates a lot of people that it takes so long—I mean, how long does it take to gather the facts?

Ms. HOMENDY. I mean, it is a complex investigation, and our investigations are very broad, and there is a lot of information that can change over time, and we are very fact-based, following the evidence. So that is our credibility, so we want to be exact when we issue something.

I will say I do have to congratulate our workforce because when I came on as Chair we had well over 400, close to 500 reports that were 2, 3, 4 years old, and they are now below 2. So that is significant.

But the complexity of investigations, and then the fact that some things we do not have control over, like if we cannot get access to evidence because a district attorney or law enforcement is prohibiting us in a certain situation, with a highway crash. That can extend the timeline.

Senator HICKENLOOPER. Sure. No, no, I have seen that. But I think on something like this, where time is of the essence, I appreciate you guys making the effort, and glad to hear that you have the workforce.

Mr. Rocheleau, in your testimony you highlighted some of the recent changes in hiring, and also especially in the training proc-

esses, to make sure we have more qualified air traffic controllers but full workforce. I know you are working with local colleges all over the country on that.

Is that effective? Is that working? I mean, I think if we can accelerate that—Metro State in Denver is a place where they are turning out some of these members. Is that something you can ramp up?

Mr. ROCHELEAU. I am very interested, and the Secretary has been very clear, with the public as well as with me, that we need to surge this hiring and do it well, again, back to the testing, the surge, bringing people in. As it relates to additional college initiatives, we have an Enhanced College Training Initiative, ECTIs, that we are using in I believe four universities right now. We are working with them, with respect to advanced simulators and the like, to make sure that we can get more what we will call throughput, but more controllers through those schools, and get them out to the local facilities, centers, towers, TRACONs.

Senator HICKENLOOPER. Great. I am out of time. I yield back to the Chair. Thank you all.

Senator MORAN. Senator Sullivan.

STATEMENT OF HON. DAN SULLIVAN,
U.S. SENATOR FROM ALASKA

Senator SULLIVAN. Thank you, Mr. Chairman, and let me start by saying that my heart goes out to the families and loved ones of the victims lost in the American Airlines Flight 5342 disaster at DCA, and not long after that, unfortunately, as well, the Bering Air crash near Unalakleet and Nome, Alaska, flying over the Norton Sound area. And I am thankful for the Chairman for holding this hearing and appreciate the NTSB, and FAA, and DoD focusing on the after actions, so this does not happen again, either here in D.C. or in my state.

And I do want to focus a little bit on my state, the great state of Alaska, because as I think all three of you know, we have very high rates of airplane crashes, highest in the country, and airplane crash fatalities, which is why we launched, with the NTSB's good work in 2020, and the FAA's good work in 2020, the FAA Alaska Safety Initiative, called FAASI. And in last year's FAA reauthorization I was able to include a number of provisions with the goal of reducing the rate of fatal aircraft accidents by 90 percent—that is a very ambitious goal—and require the FAA to improve maintenance of weather equipment.

So, Mr. Administrator, I want to get into that topic a little bit. I was just home. It came up a lot, how there might be cancellations of weather operations and infrastructure and reporting, which makes zero sense to me. I hope our Federal Government is not doing that. But one of the things in the FAA bill, I was able to include requirements for systematic improvements to the maintenance of our weather systems and advancing new technologies, and this includes a mandate for the FAA to take necessary actions to restore full connectivity of weather systems that are unable to disseminate information due to a telecommunications failure. We have telecommunications challenges in a state the size of mine.

So you can you talk to that, Administrator Rocheleau? And then I would like to get an update from your perspective on where we are on the FAASI initiative. As you know, the Secretary of Transportation, in our press conference that we all did together—and again, I appreciate everybody participating in that—has made this a very top priority of his, and yet as we saw in Alaska we had a fatal crash that hopefully we are going to learn from.

Can I ask you on the data link, telecoms, weather reporting, which is a big deal for my state?

Mr. ROCHELEAU. Yes, sir. I appreciate that. And I appreciate the opportunity to talk a little bit more, based on our previous conversation, your leadership. As a result of that and your request I did travel recently to Alaska to go and understand more. I met with the NTSB lead investigator along with my investigators as it related to the Bering Air tragedy.

Senator SULLIVAN. By the way, thank you both for coming up to Alaska. I know it is not the easiest, closest state to get to from Washington, D.C., but it is important that you are showing my constituents that it matters.

Mr. ROCHELEAU. Yes, sir, and I agree. It is very important, I understand having been there a number of times, the unique nature of Alaska, certainly its topography as well as the need for safe aviation operations.

So related to, again, reauthorization and the commitment to work to have better communications throughout Alaska, one of the initiatives, one of the reasons I went to Anchorage was to understand more about how the maintenance issues, the connectivity issues, whether that is on the telco side or satellite. And one of the things we are doing right now, and I met with our own technical operations people in the area, to test Starlink, so satellite. Because of the unique nature of it, and the difficulty with telco, we needed another solution. And one of the ways we believe we can do that is using satellite-based technology. So that is what we are experimenting with right now.

Senator SULLIVAN. Well, by the way, I really appreciate—you know, the press here kind of went crazy, and oh, Starlink. I mean, that is actually really helpful for us. And we appreciated the Secretary called me and said, "Hey, we are going to connect some of these terminals through Starlink, because that is the most effective way to do it." So I appreciated that you guys were working it.

Can you give me an update, or Madam Chair, an update on the FAASI Initiative, and then any preliminary findings you are seeing from the NTSB preliminary report on the Bering Air crash?

Senator MORAN. Senator Sullivan, this needs to be your last question.

Senator SULLIVAN. It is, Mr. Chairman.

Ms. HOMENDY. We are still working on that investigation, of course. The preliminary report was issued and did find that the aircraft was over 1,000 pounds overweight. But we also are going to look at the center of gravity on that airplane and see how that factored in. And then we are really focused in on weather that day, as well. As you noted, weather infrastructure is critical for Alaska, and we have a number of recommendations on weather observing stations and also the importance of pilot reports and having air

traffic control when a pilot reports weather conditions, to pass that information along to other pilots in the area. And that is something we are looking at as part of this investigation, in particular.

Senator SULLIVAN. Great. Thank you. Thank you, Mr. Chairman.

Senator MORAN. Senator Sullivan, thank you. I do not want to diminish the circumstances that Alaskans faced and the circumstance you, as their Senator, represent. We are trying to get everybody's questions in before the vote closes, and I recognize Senator Klobuchar.

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

Senator KLOBUCHAR. Thank you very much, Chairman. Thank you. And to the families, such a tragedy, and I know there are those watching at home as well, including the family of Wendy Jo Schaffer, a Minnesotan, mom, two little kids, and husband, and we lost her.

So, Chair, I want to thank you for your work. I know how complicated these investigations are. And could you just briefly talk about any open recommendations on communications that do not come out of this, that the NTSB—I know you have over 1,000 open safety recommendations. And while this investigation is ongoing, just open recommendations related to technology and anything that would improve communication?

Ms. HOMENDY. Related to this investigation?

Senator KLOBUCHAR. Not related.

Ms. HOMENDY. Oh, not related. We have a number of recommendations that remain open, including a number of recommendations issued to the FAA. On communications, in particular, I mean one thing I will mention, that we have not talked about, that we are looking at as part of this investigation, is our long-standing belief that ADS–B In also needs to be mandated by the FAA. We do not know what relevance that has to this investigation yet. However, it is a long-standing position of the NTSB. It will provide key information to pilots. And in 2008, in our comments for Notice of Proposed Rulemaking to FAA, where they decided not to require it, we said equipage of aircraft with ADS–B In capability will provide an immediate and substantial contribution to safety.

Just a couple of years ago, and we just talked about Alaska, we investigated a midair collision in Ketchikan, and we reiterated—and this is the statement—that NTSB remains concerned that without a requirement to install and use ADS–B supported airborne traffic advisory systems, midair collisions will continue to occur. And that was in 2019. So we will look at that as part of this investigation.

Senator KLOBUCHAR. OK. Thank you. We all know full funding of the FAA could not be more important. Last year, we passed the bipartisan FAA Bill to improve aviation, workforce training. And actually Senator Braun, then-Senator Braun, now Governor, and I had the bill to require the FAA to conduct maximum hiring of air traffic controllers at the FAA Academy. And I guess I would ask you, Acting Director Rocheleau, you discussed in your testimony the efforts that Secretary Duffy and the FAA have taken to bolster

the air traffic workforce. I think 91 percent of the air traffic control facilities operate below recommended staffing levels. I think they are 3,000-some short. This I got from some of the people who do this work.

Can you talk to the current state of staffing and how do you plan to maintain recruiting levels? We did have an increase, I believe, last year.

Mr. ROCHELEAU. Yes, Senator, and thank you for the question. This is a very important issue for the Secretary and myself, as we look at the safety of the national airspace system, in general, but certainly as we are looking to bring the best and brightest controllers into the airspace system, to make sure that we are providing that safety for Americans as they travel through the air.

I would say that as a result of this surge we had over 10,000 applications. Over 8,000 of those have now been referred to testing. We have streamlined the process, cut roughly 5 months off that process. So going forward we intend to have no empty seat at any upcoming Academy classes.

I would also say that we expect our partnerships with other schools, universities, to be able to bring more people into the career field itself. It is an exciting career. And even incentivizing students to come to Oklahoma City, with an additional 30 percent. We have kind of put all our focus on this effort in addition to the many other things we have got going on. But controller hiring is of paramount importance.

Senator KLOBUCHAR. Very good. As you know, we have very active airports in Minnesota, a major hub. I would ask you to look at the Duluth air traffic control tower, just because it is the third-oldest in the Nation. And Secretary Duffy is aware of it. It has had flooding, and it is a major air base up there, as well, for the Guard.

Mr. ROCHELEAU. Thank you, Senator.

Senator KLOBUCHAR. Yes. And Representative Stauber and I have been working together on that.

Anyway, last question is just the importance of fully funding the FAA. Quickly for both of you, or all three of you——

Ms. HOMENDY. I can talk about fully funding the NTSB.

Senator KLOBUCHAR. Yes, please do.

Ms. HOMENDY. I mean, you are important, but we did get an increase in funding that I do want to thank you for, to 145 in the CR. It was an anomaly. But for fully staffing the NTSB, right now we are at 427. We went down in the last couple of months because people left. We will be able to go up to 450. But fully staffing the NTSB to accomplish our mission would require hiring between 485 and 500 personnel, which requires resources. So as you consider Fiscal Year 2026, it would be helpful.

Senator KLOBUCHAR. That is very helpful.

Mr. ROCHELEAU. And I certainly echo those sentiments. Fully funding the FAA is critical, not just for the workforce but for our facilities and equipment. The situation is quite concerning to me, as I review over 30 percent of our facilities being unsustainable going forward. We have to invest in that infrastructure going forward.

Senator KLOBUCHAR. Thank you. I know that is no solace to the families, but knowing that you are stepping back and looking at all

of this right now, so other tragedies can be avoided. It could not be more important. So thank you very much.

Senator MORAN. It gives me an opportunity to editorialize. We need to pass appropriation bills and not continue to utilize continuing resolutions. That is directed at not necessarily at my colleagues here, but my colleagues generally.

Senator Duckworth.

Senator DUCKWORTH. Thank you, Mr. Chairman. I agree with your last statement. I just have two quick questions. General Braman, I have never had a warrant officer be afraid to tell me when I was doing something wrong in the aircraft, and I prefer to have them as a pilot-in-command to myself. Speak a little bit to crew resource management and how it works in an air crew, and speaking to Senator Schmitt's question, not just about between the two pilots but also the role of the crew chief, and do they have the ability to speak up, as well?

General BRAMAN. Thank you, Ranking Member Duckworth. There is nothing more important in the air crew than crew resource management, and that is taught from day one, and everyone has an equal voice. Obviously, the pilot-in-command is the one that is designated with the authority to command that aircraft, but I have never been in an aircraft that was ever in an environment where all members were not a valued member of the team, and we rely on all those members to accomplish the missions we are doing.

Senator DUCKWORTH. Thank you. I am just going to wrap up by saying how important it is to fund and resource the NTSB. You guys do amazing work. You, yourself, Chairwoman, oftentimes I will call you when something happens, whether it was a door plug incident or something, and you were already on the ground or in the air, on your way there. And you need the resources to do your work. And as we are seeing from this investigation, how critically important that is, not just to find out what happened, but to prevent future accidents. So I could not agree with you more that we should be funding you.

Mr. Rocheleau, I think we also need to look at the facilities at FAA, and we need to talk to that. I would love to get your commitment to come out and tour the facilities in the Chicagoland area and see the condition of this repair that they are in.

Mr. ROCHELEAU. I commit to that. Thank you, Senator.

Senator DUCKWORTH. Thank you. And with that I am going to turn it back over to the Chairman, who has been very generous.

Senator MORAN. Thank you, Senator Duckworth. I am going to ask just a couple of tidbits—I hope they are important questions more than tidbits—but I hope they will be short so I can go vote, and I think that Senator Duckworth will close out the hearing in my absence.

First of all, the fact that ADS–B Out, there is evidence that transmissions were not received. And apparently the Army does not know that they were not received. Why doesn't the FAA know they are not received?

Mr. ROCHELEAU. I am not aware of that. I know it is part of the ongoing investigation. I do not believe that we receive any helicopter information from the Army.

Senator MORAN. But somebody has to be reporting that they were sent but not received. Who do they report that to?

Mr. ROCHELEAU. Again, I think that is part of the investigation. My assumption would be the Army.

Senator MORAN. OK.

Senator DUCKWORTH. Well, no. The Army could have it turned on but I think what the Chairwoman is saying is that the receiving stations got no data, so the Army has got it turned on and they do not know that it is not receiving. So this is, again, this communication issue between the different agencies.

Senator MORAN. Senator Duckworth was speaking on my behalf. She said it exactly right.

Senator DUCKWORTH. I said you were generous.

Senator MORAN. I think this is my concluding question, and then I recognize Senator Markey. This is to you, Mr. Rocheleau. What is the current state of operations at DCA? How are they different today than they were on January 29?

Mr. ROCHELEAU. Yes, sir. Again, I appreciate the opportunity to explain. So immediately after January 29, we restricted the airspace in the yellow boxes I showed in the previous graphic for mixed traffic. So no helicopters or fixed-wing will be in that box, if you will.

Senator MORAN. The yellow.

Mr. ROCHELEAU. The yellow box, going forward. In the red section——

Senator MORAN. That is still true today.

Mr. ROCHELEAU. Yes, sir, and that is permanent. We have made that permanent. We have also eliminated Route 4 and Route 6, the crossing that goes over to Bolling Air Force Base from DCA.

Senator MORAN. Any other changes? I would ask about number of flights. It appears to me, and my understanding is there are fewer flights utilizing Reagan National Airport?

Mr. ROCHELEAU. Yes, sir. Thank you. So in the aftermath we reduced the arrival rate. A lot of that was to support the NTSB ongoing investigation and the emergency response work. Today we are running at what we call a 30 rate, so 30 arrivals an hour. And we are doing that largely in partnership—I mean, we have received great information from the NTSB regarding some feedback they were receiving during their preliminary investigation, regarding the workload on the controllers themselves. Obviously, a tragic event has an effect. I mean, these people come to work every day. They care about what they do. And so we reduced the rate down to 26. Slowly we moved back to now we are at 30 rate.

Senator MORAN. And will stay constant or change in the future?

Mr. ROCHELEAU. Right now that is constant. That is staying. We are continuing to monitor that.

Senator MORAN. For the foreseeable future, the 30—is it 32?—30?

Mr. ROCHELEAU. It can go to 32, but right now we are at 30, and we plan to maintain that until such time as we assess the safety and being able to go to a higher rate.

Senator MORAN. Senator Markey, are you OK if I continue just a moment? I often, almost without exception, when I am chairing a hearing, ask the witnesses at the end, at the conclusion of the

hearing, is there anything that you want to correct that you did not say, as you wish to say it, something you want to make sure we hear. And then I will turn the conducting this hearing over to Senator Duckworth. Ms. Homendy?

Ms. HOMENDY. That is when all my staff cringe when I chime in. On this one, I would say I know there is a lot of focus on the FAA right now. I do think they are very focused on safety. We have an excellent relationship and have been in communication constantly since this accident.

I would say one area we are really looking at also is how the Army evaluates when there is reporting of close calls. Do they get those reports, the Army I am talking about, and how do they communicate? At the battalion level, how do they communicate and talk about safety? How do they evaluate safety? Are they getting reports? Are they monitoring their own helicopters that might exceed altitude levels?

We have found so far that a lot of the conversation and safety discussion at the battalion level is really focused on OSHA's slips, trips, and falls. There is a disconnect on some of the discussion around safety and safety assurance from the Army as a whole versus the battalion level. So we are really looking at that.

Senator MORAN. Please answer this question, but just in my absence.

Mr. ROCHELEAU. Yes, sir, and I appreciate the opportunity. I just want to make it crystal clear that something was missed at the DCA crash. I take that seriously. I take that upon myself. I returned to the FAA just two months ago because I care about the National Airspace system and the safety and the workforce, and I am dedicated to continuing that work. And I will continue to review what I mentioned before with respect to the hotspots, working closely with NTSB, to learn what happened here, and to make sure it never happens again.

Senator DUCKWORTH [presiding]. General, I am going to ask you to suspend so Mr. Markey can ask his questions, because he is going to miss a roll call vote if he doesn't get to. I recognize Senator Markey.

STATEMENT OF HON. EDWARD MARKEY,
U.S. SENATOR FROM MASSACHUSETTS

Senator MARKEY. Thank you so much, and thank you, Mr. Chairman, Ranking Member. I want to take a moment to express my deepest condolences to the families who lost loved ones in the tragic crash in January. Your pain is unimaginable, and your presence here today is a powerful reminder of the lives that were so suddenly and unfairly taken.

I want to specifically note the individuals from the Skating Club of Boston who passed away in this crash: Spencer Lane, Christine Lane, Jinna Han, Jin Han, Evgenia Shishkova, Vadim Naumov.

We had a similar plane crash in 1961 that devastated the Skating Club of Boston. The trauma for the City of Boston and for your families is great. So please know that we grieve with you, and we are committed to finding answers and accountability in honor of those who you have lost.

Chair Homendy, thank you and the entire NTSB team for your work to investigate this crash. I want to discuss the altitude of the Black Hawk helicopter. NTSB's preliminary report notes that a few minutes before the crash the pilot indicated that the helicopter was flying at an altitude of 300 feet, while the instructor pilot said it was at 400 feet. The report also found that helicopters may have been above the altitude restriction in over half of near misses that triggered an advisory on the plane's traffic alert and collision avoidance system.

In your experience, are altitude discrepancies like this common, and are you concerned that Black Hawk altimeters may have a systemic problem?

Ms. HOMENDY. This barometric altimeter, we have done substantial examination on it. We do not think we are going to get much from this altimeter because there was such damage. We are going to have to look at other data.

But I think it is too early to really say what the discrepancy was or whether it was a discrepancy. There was no information other than 1.1 nautical miles west of the Key Bridge when the pilot flying said, "I'm at 300," and the pilot instructor said, "I have you at 4." There was no further discussion of why. So there is a lot of work that still has to be done.

Senator MARKEY. OK. Administrator Rocheleau, on a related issue, Elon Musk recently made alarmist claims about the FAA's air traffic control communications system. He said, "The FAA assessment is single-digit months to catastrophic failure, putting air traffic safety at serious risk. The situation is extremely dire." Elon Musk is in charge of all the investigations into every single Federal agency. That is scary.

This is at the same time that he may be pushing for Starlink, his own company, to take over the contract to upgrade the communication system. And one month ago, the FAA announced it was deploying multiple Starlink terminals across the country.

Given these systems critical importance to our aviation system, these developments raise serious questions about aviation safety. So I would like you to set the record straight on this issue of he said basically we have single-digit months to catastrophic failure, putting air traffic safety at serious risk. Is that tweet accurate?

Mr. ROCHELEAU. I would say that the circumstances around our air traffic system are in great need of renewal. We need to modernize——

Senator MARKEY. I did not ask you that. The public needs to hear this. Are we within single-digit months to catastrophic failure, putting air traffic safety at serious risk?

Mr. ROCHELEAU. I know we need new air traffic control facilities. I know we need that. I know——

Senator MARKEY. So you are saying we are at risk. Is that what you are saying? Are you agreeing with him that we are?

Mr. ROCHELEAU. I am saying our air traffic system needs modernization as soon as possible.

Senator MARKEY. You understand, we cannot have people heading for airports all across the country right now with Elon Musk, the ear of the President, saying that we are within single-digit

months of catastrophic failure. Can you assure people that that is not the case right now?

Mr. ROCHELEAU. I can assure you, to the flying public, to fly is safe. We have the safest, most complex system in the world, and it is safe to fly. I would also say the air traffic system is in dire need of upgrade, and it is something the Secretary and I have been working on intensely.

Senator MARKEY. Well, so you are saying that this is not right, we are not within months of a catastrophic failure. Because I do not think anyone wants to put a family member on a plane right now with this kind of assessment. Have you made the assessment that we are within single-digit months of catastrophic failure? Have you made that assessment?

Mr. ROCHELEAU. I have reviewed assessments in the last two months and understand that our equipment needs to be upgraded.

Senator MARKEY. I did not ask you that. Is the existing equipment safe?

Mr. ROCHELEAU. Yes.

Senator MARKEY. Is the existing equipment putting traveler safety at serious risk? Yes or no.

Mr. ROCHELEAU. The existing system is safe.

Senator MARKEY. Is safe. All right. We need to know that. Are any SpaceX employees serving as special government employees at the FAA right now?

Mr. ROCHELEAU. We had three special government employees from SpaceX. We are only in contact with one at this point. I would make it very clear they did not do any air traffic—they did not plug into any of the equipment. They came in to observe our operations and provided expertise along the lines of software and computer systems.

Senator MARKEY. Did any employee have any involvement in the FAA's decision to deploy Starlink terminals in February?

Mr. ROCHELEAU. I am sorry, if you could just repeat that question.

Senator MARKEY. Did any of those DOGE employees have any involvement in the FAA's decision to deploy Starlink terminals in February?

Mr. ROCHELEAU. There were no DOGE employees in that decision. Starlink is being tested at a number of our facilities, only tested and not plugged into any air traffic systems.

Senator MARKEY. Are any of these employees involved in the decisionmaking process around the deployment of additional Starlink terminals?

Mr. ROCHELEAU. No, sir.

Senator MARKEY. OK. So I recognize that Starlink terminals may be an effective communications tool in remote areas, and I am sure Starlink engineers think highly of their potential. We just need to be extremely careful——

Mr. ROCHELEAU. Yes, sir.

Senator MARKEY.—in making these life-and-death decisions that they are not based on any pre-existing professional biases or financial conflicts. That is your job. You have got to make sure this is the way we operate, because we are going to have hearings on this as this year and next year unfold.

So I thank you, and I thank you, Madam Chair.

Senator DUCKWORTH. Thank you. I want to return to General Braman so he can conclude his remarks.

General BRAMAN. Thank you, Senator. I do want to clarify two quick points, one on the memo requested by the Chairman, both Chairmen. It can be made available. However, it is part of the investigation. That is the unit's memo that discusses how they utilize ADS–B Out Off. It is their policy letter. It is in the purview of the investigation. That is why it is not currently releasable. But certainly when the NTSB and the other investigations have done their due diligence we can look to make that available to the Committee.

Senator DUCKWORTH. Ms. Homendy?

Ms. HOMENDY. For the NTSB, if the policy existed prior to the collision, you can provide it. That can be provided.

Senator DUCKWORTH. Thank you. What is your second point, General?

General BRAMAN. And the second one, talking about whether we are willing to change the policy, the Army's policy. The Army is always willing to review its policy. Am I prepared to make a decision on ADS–B Out right now. No, Senator, but I want to do that informed by the facts that we have and this investigation, and those will drive policy changes. And that is not the Army policy. That is DOD policy, and the Army certainly has a vested interest in getting it right.

At the end of the day, what I am most concerned about is the rigid application of that policy, that it is being done correctly, and not being abused. And that is part of this investigation, as well.

Senator DUCKWORTH. Thank you. Senator Cantwell.

Senator CANTWELL. Thank you, Madam Chair. I wanted to just go back to this process, how it is set up in the FAA, and how we rectify these issues in the future. But, Chairwoman Homendy, I think you are saying, in your earlier testimony, that even if the Black Hawk helicopter had hugged the shoreline as originally described, that even that route that is outlined is insufficient, your investigation showed that even that is insufficient.

Ms. HOMENDY. Intolerable risk to aviation safety.

Senator CANTWELL. OK. Intolerable risk to aviation safety. So Acting Administrator, how did we get to a point where we have a route, that is allowed and mapped, that the military is flying, that is interfacing with commercial aviation, that as by the very definition the NTSB is saying, even if they flew the correct path, was an intolerable risk. I think you are saying that because the difference in separation was just too small. Too small.

Ms. HOMENDY. There was virtually no margin of error.

Senator CANTWELL. No margin of error. How are you defining margin of error?

Ms. HOMENDY. I mean, just looking at this—and I think you have the printout in front of you, hopefully, or staff has it, that we provided. This is not for the public. This is in our preliminary report and for those behind me. But the charts, when we mapped the glide slope and we looked at the helicopter route, which has no lateral boundaries, it is 75 feet max if you are hugging the shoreline.

The collision actually occurred to the right and slightly above the dashed line, right here. And just so you know, pilots landing on

Runway 33 do not have to be on this dashed line. They can be above or below. But it occurred about to the right.

Senator CANTWELL. You are saying——

Ms. HOMENDY. They were not on this route. They were slightly over.

Senator CANTWELL. You are saying under this route. They could have been below or above this line. But you are now saying that 75 feet is not enough separation.

Ms. HOMENDY. Seventy-five feet is the max. Because there are no lateral boundaries on this route it goes down as you come over. So helicopters are not always on that eastern shoreline, which is where the 75 feet is marked, and they were not in this situation. They were actually to the right of this gray-shaded area, which indicates the route that has no boundaries.

Senator CANTWELL. But I thought your analysis, even if they were on that route, it is still an intolerable risk——

Ms. HOMENDY. Correct.

Senator CANTWELL.—because there is not enough separation.

Ms. HOMENDY. Seventy-five feet is very small.

Senator CANTWELL. Right. So how did we get to this point, is my question? How did we get to this point? It is like it is a series of errors here, a series of errors. And so I am just trying to understand, Acting Administrator, what office is responsible for this? What office is responsible for the exemption to the rule, which just made it worse? But what office said this is a safe pathway, in agreement, when the NTSB is telling us today it never really was safe? It was not. It was an intolerable risk.

Mr. ROCHELEAU. And certainly I understand today, and even after the preliminary report that was the assessment. I can tell you that—and I am sure we will learn more over time as to how the airspace was redesigned. I know that as a result of previous incidents that we have talked about earlier today there were changes over time with respect to that airspace. But it is one of the reasons why we immediately terminated those types of operations after the event. So Route 4, Route 6, no mixed traffic into the airspace. Those are the things that we put in place immediately.

I think when you talk about how did we get there, I think we are going to learn more of that through the investigation. Again, I can confidently say, without knowing specifically what is in the investigation, that over time those routes, that airspace, was designed—it is one of the reasons why we have gone back to the hotspots now throughout the Nation to understand the circumstances by which we move traffic safely and efficiently.

Senator CANTWELL. What office of the FAA has oversight of this issue, as it relates to this area?

Mr. ROCHELEAU. So the Air Traffic Organization builds out the airspace, and there is an Aviation Safety Office that reports directly to me, that oversees the Air Traffic Organization.

Senator CANTWELL. And did that office ever bring up any of this data or information or have input from anybody that said, "We don't like this scenario. There are too many close calls, too much interface, too complex, too hard to deal with"?

Mr. ROCHELEAU. On this specific route I am not aware of that. I know that when we are presented with those, and we have

been—that is how airspace changes—when we are presented with those circumstances, situations, near midair collisions, we investigate them and we put mitigations in place.

Senator CANTWELL. Well, I am questioning whether anybody was investigating? I mean, that is the issue. You had an alarm going off once a month. You had the data. You are saying maybe people were not looking at it. And while I get that AI is this very new and interesting technology, it is no substitute for the FAA having an oversight over this level of traffic.

So as my colleague, the Chair of this hearing, mentioned, now we want to know, do we have other problems in other airspaces? I mean, we are very focused on DCA, but now we want to know, we have big military complexes, 10 military installations in the state of Washington. I am sure Chicago has a lot. We want to know, do we have to worry about this somewhere else because the FAA is not looking, and does not have an organization that is overseeing this information?

Mr. ROCHELEAU. I agree 100 percent with you. This is of utmost concern to me, not just in the DCA area, which again, we have put measures in place to reduce the risk and to make the airspace less complex. This is one of the reasons why we have a task force working on what we are calling hotspots, to ensure that we are looking at airspace design wherever we have mixed traffic, in 10 locations, I believe it is a total of 20, 21 airports specifically, to see where similar traffic like this needs mitigation.

Senator CANTWELL. So you say this office reports directly to you, and you say they oversee these areas and the interface.

Mr. ROCHELEAU. Let me be clear about that. The office that oversees air traffic reports directly to me. The task force, the group of people that are looking at these hotspots specifically are multiple parts of the agency—air traffic, aviation safety, airports. So we have a number of people as part of that effort to make sure that we are looking at the airspace design, and if we find risk, we react.

Senator CANTWELL. Well, there was risk, for sure. There was risk. It was being sounded in an alarm, and it was not being addressed. So now we have to figure out why that was not being addressed. There is a lot of information here that says very high risk, very high risk. So why was that ignored, or was no one looking at it? So we need an answer.

I think this Committee did very good work, in my opinion, after the Columbia accident, and set up more safety offices to make sure that we never miss something like that again. And I feel like that is the issue we are asking you today. So we need to understand what you think is in place, and why, if it was in place, did we miss this, because little pieces of the responsibility were delegated to various parts of the organization and nobody had a holistic approach, or data, lots of data, and it is being ignored.

But this is clear—clear—that this was an unacceptable design. It is just unacceptable, and I do not know how we got there.

I do want to ask you, are you now supportive of ADS–B In as a requirement, making sure that carriers, like this regional jet—again, I mentioned earlier it is $20,000 or so per plane—why can't we just say we are going to do this?

Mr. ROCHELEAU. I did understand from the Chair earlier that it has been an ongoing recommendation. I have not personally looked into that in the last two months as to what the expectations are on ADS–B In. I know that equipage on aircraft throughout the system can be challenging, but I certainly will take that back and look into it, to figure out what specifically ADS–B In, what would be required to mandate that. Certainly if Congress passes a law we would, as we did with——

Senator CANTWELL. Well, we already did, by the way. We already did. It was called the Reauthorization Bill. And as I said in my opening statement, we basically authorized spending for this through the equipage program. And you can discuss how this actually gets deployed, but I am pretty sure the consumer ends up paying for it, regardless, in some way.

So the point is, NTSB has been recommending this. Is that right, Chairwoman?

Ms. HOMENDY. That is correct.

Senator CANTWELL. You have recommended this since 2008?

Ms. HOMENDY. And I have to look, but I think we actually have recommendations on ADS–B In that precedes that. Those were comments, and if I may, may I add our 2008 comments to the hearing record.

Senator DUCKWORTH. Without objection.

[The information referred to follows:]

National Transportation Safety Board
Washington, D.C. 20594
Office of the Chairman

FEB 14 2008

Docket Management Facility
U.S. Department of Transportation
1200 New Jersey Avenue, SE
West Building Ground Floor, Room W12-140
Washington, D.C. 20590-0001

Attention: Docket Number FAA-2007-29305

Dear Sir or Madam:

The National Transportation Safety Board has reviewed the Federal Aviation Administration's (FAA) notice of proposed rulemaking (NPRM), titled "Automatic Dependent Surveillance—Broadcast (ADS-B) Out Performance Requirements to Support Air Traffic Control (ATC) Service," which was published in 72 *Federal Register* 56947-56972 on October 5, 2007. The notice proposes performance requirements for certain avionics equipment on aircraft operating in specified classes of the airspace within the U.S. National Airspace System (NAS). The proposed rule would facilitate the use of ADS-B for aircraft surveillance by FAA and Department of Defense air transportation and provide aircraft operators with a platform for additional flight applications and services.

The Safety Board supports the proposed performance requirements for ADS-B Out and believes it will address an important safety issue, especially in areas of restricted or nonexistent radar coverage like the Gulf of Mexico and Alaska; however, the Board is concerned that the January 1, 2020, time parameter the FAA has set for requiring aircraft to be equipped with ADS-B Out equipment is over 11 years away. Because the FAA plans to contract with commercial vendors for the use of available ground infrastructure to receive ADS-B Out communications from aircraft and the aircraft technology and equipment necessary to provide ADS-B Out communications have already been demonstrated and proven in both commercial and general aviation aircraft, it is difficult to understand why implementation should take more than a decade to complete. The Safety Board believes that the benefits of ADS-B technology warrant rapid adoption. We encourage the FAA to review its planned timeframe for mandatory ADS-B equipage and minimize the delay in using this important technology.

The Safety Board is very concerned that the FAA does not plan to require ADS-B In capability because, according to the NPRM, it "has not been identified as a requirement for maintaining the safety and efficiency of NAS operations." The Board believes that this assessment is incorrect and that the equipage of aircraft with ADS-B In capability will provide an immediate and substantial contribution to safety, especially during operations in and around airports.

The critical need to improve the safety of ground operations is recognized throughout the aviation industry. Despite the efforts of the FAA, the International Civil Aviation Organization, pilots, and airport operators, runway incursions still represent a serious threat for a catastrophic accident. On March 27, 2007, the Safety Board sponsored a Runway Incursion Forum that brought together all parts of the aviation industry to discuss how to improve the safety of ground operations. One of the recurring issues mentioned by attendees was the need to improve information transfer to the cockpit, particularly regarding pilot awareness of surrounding traffic, clearance confirmation and compliance, aircraft position in relation to runways and taxiways, the status of runways as occupied or closed, and information on airport conditions such as that commonly distributed via the notice to airmen process. The FAA has recognized the need for improved information transfer through the development of direct-to-cockpit warning systems such as Runway Status Lights, the Final Approach Runway Occupancy System, and other methods intended to apprise pilots of potential hazards.

The basic concept behind such developments—that pilots benefit from awareness of potential hazards—is well accepted. The difficulty has come mainly from developing an effective and reliable means of communicating such information to the cockpit, a capability that is inherent in the data transfer functions of ADS-B In and ADS-B Out. ADS-B In provides a ready method of sending warning information to pilots, providing confirmation of clearances, displaying the positions of surrounding aircraft and ground vehicles, showing runway status, and generally providing greatly improved situational awareness for pilots, controllers, and others. In our view, aircraft equipage with ADS-B In presents an opportunity to greatly improve safety and reduce the hazards encountered during ground operations. The Safety Board believes that the FAA's failure to expedite the adoption of full ADS-B capability (both ADS-B In and ADS-B Out) would be unfortunate and would result in missing or unnecessarily delaying an opportunity to remedy a serious and notorious safety issue. We therefore encourage the FAA to reconsider its analysis of ADS-B In and promulgate a requirement for full ADS-B equipage on an expeditious timescale.

In closing, the Safety Board supports the use of ADS-B and believes that ADS-B Out will provide a safety benefit in the NAS in those areas not currently equipped with radar equipment. However, the Board is concerned that this NPRM does not propose requiring ADS-B In, which would be instrumental in providing additional safety information that would prevent incidents such as runway incursions.

Thank you for the opportunity to comment on this NPRM.

Sincerely,

Mark V. Rosenker
Chairman

Senator CANTWELL. So I think, Acting Administrator, I think we need to hear from the Department of Transportation and the FAA that they understand that these recommendations have been on the table, and you need to respond to them.

We do not want to keep doing this, which is having one organization, who has to investigate all the accidents, deal with all the families, deal with the grief and emotion, and then have an FAA that gets too cozy with industry and gives them exemptions. We do not want that.

So what we want is you to listen to the NTSB. And I know this is historic. I am not blaming any administration. It is historic. It is historic. It has been there since the beginning of the big crashes that we have had, way before the Max, where the FAA makes safety recommendations, and then they are ignored for like, oh, I don't know, sometimes a decade, and then people finally say, "Oh, OK." But we owe it to these families. We owe it to them now. It is not that hard to get this done.

So I hope that you will take this back to the Secretary, have an internal discussion, and basically agree it is time to get this done.

Ms. HOMENDY. And if I may add, and we are going to look at this as part of our investigation to see how it could have factored in, but the CRJ had ADS–B Out. It did not have ADS–B In. So we are going to look at what that information could have provided to that flight crew and how it could have made a difference. We have seen that in other investigations, which is why we have these recommendations.

Senator CANTWELL. Thank you, Madam Chair.

Senator DUCKWORTH. Thank you. I do think that a nationwide look is important, and I am glad that FAA is looking at the hotspots. I understand that many of these routes, it is not just the military that is flying them. It is local law enforcement. It is Federal law enforcement. It is hospitals that are all flying them, as well. But I do think beyond a very local, hyper-local look, a national look is really important.

Thank you all for coming. Again, my condolences to the family members. And I just want to say again, thank you again to Chairwoman Homendy, thank you, Mr. Rocheleau. I know you have only been the Acting for a couple of months. We have been without an FAA Administrator for three years prior to your immediate predecessor. And again, General Braman, thank you for being here.

Thank you to all the witnesses for their important testimony today. Senators will have until the close of business on Thursday, April 3, to submit questions for the record. The witnesses will have until the close of business on Thursday, April 17, to respond to those questions.

And this concludes today's hearing. The Committee stands adjourned.

[Whereupon, at 12:26 p.m., the hearing was adjourned.]

A P P E N D I X

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JERRY MORAN TO HON. JENNIFER HOMENDY

Question. You described the findings of your investigation related to the ADS–B Out transmissions of the battalion, indicating that of the 16 Lima model Blackhawks, seven were transmitting ADS–B Out when turned on, and eight were not. Five of those eight began transmitting since the NTSB identified the issue. Since you shared this with the Subcommittee, has your investigation been able to isolate the reason as to why those aircraft ADS–B Out equipment were not transmitting?

Answer. Our initial review of the transponders' configuration on the helicopters that were not transmitting ADS–B Out revealed that a setting not normally manipulated by the crew was set incorrectly after the ADS–B equipment was installed.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. SHELLEY MOORE CAPITO TO HON. JENNIFER HOMENDY

Question 1. Chair Homendy, I appreciate all of your and the NTSB's dedication to finding the answers. The aircraft pilot gets the T–CAS warning of "traffic! Traffic! traffic!" then hears the tower say go for visual separation and then the helicopter possibly mixes up the aircraft with one by the Wilson bridge and 19 seconds later the collision happens.

Is visual separation typically requested at such a huge distance or would the chopper have known that that ATC request should mean a plane only a few hundred feet away?

Answer. It is common at DCA for helicopters to request visual separation at varied distances when operating throughout the DCA class B airspace.

The first time the helicopter crew reported having traffic in sight and asked to maintain visual separation occurred when the distance between the two aircraft was about 6.5 nautical miles.

About a minute and a half later, the tower asked the helicopter crew if the CRJ was in sight. The crew indicated that traffic was visible and again requested visual separation. This is when the crew of flight 5342 received the TCAS advisory. At this time, the aircraft were about 0.95 nautical miles apart.

Question 2. I know that the tower was able to communicate to both the helicopter and the plane and that they could both hear the message about visual separation after the "Traffic! Traffic! Traffic!" T-CAS warning went off in the plane. I know there are plenty of reasons why aircraft should not be able to communicate directly with one another such as talking over each other but in an instance where the "Traffic!" warning is blaring in the flight deck would it make sense for there to be a communication channel between those two flights?

Answer. It is certainly preferable for pilots to be on the same frequency as ATC and able to hear all transmissions from other aircraft as well as from ATC. However, aural alerts that are internal to the flight deck, such as a TCAS advisory, would not be audible to other aircraft or to ATC.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO HON. JENNIFER HOMENDY

Question 1. Surface Awareness Initiative. As part of FAA's response to preventing close calls, the FAA took it upon itself to fast-track the deployment of certain technologies at airports to improve air and ground traffic visibility, such as the Surface Awareness Initiative (SAI) system at airports. Notably, FAA is deploying the cheaper SAI system at airports that do not have airport surface surveillance systems such

as Airport Surface Detection Equipment Model X (ASDE–X) or a similar tool known as ADS–B Airport Surface Surveillance Capability (ASSC).

What key capabilities does the Surface Awareness Initiative system lack compared to systems like ASDE–X or ASSC?

Answer. SAI does not have an associated active ground radar, so it relies solely on ADS–B for its aircraft and vehicle tracking. In addition, unlike ASDE–X and ASSC, it does not currently alert controllers of potential conflicts and provide conflict resolution instructions.

Does the deployment of the SAI system satisfy NTSB recommendations for installing airport surface surveillance systems at more airports across the U.S.? Why or why not?

Answer. In our report for the February 4, 2023, Austin, Texas, runway incursion, we stated that we believe the SAI system could potentially satisfy the intent of Safety Recommendation A–24-10, but, because the system has not been deployed at any airports, we cannot accurately assess if it would address all elements of the recommendation.

The FAA has not yet responded to this recommendation, which was issued on June 18, 2024; however, our recommendation was that the equipment should alert controllers of potential conflicts, which is not currently the case with SAI.

Question 2. Is FAA's installation of the cheaper SAI system over more advanced systems like ASDE–X or ASSC enhancing visibility of airport surface environments for air traffic controllers?

Answer. For those towers that previously did not have surface detection capability, SAI provides greater awareness of aircraft and vehicles operating on the airport surface.

In NTSB's view, is FAA making the right choice by prioritizing the installation of the cheaper SAI system at airports that do not already have airport surface surveillance systems over installing ASDE–X or ASSC?

Answer. With SAI's reduced cost of installation, the FAA can provide more airports with some level of surface detection capability. However, in its current state, we do not feel SAI is a direct replacement for aging ASDE–X or ASSC systems that are already installed, and it would actually reduce capabilities at those airports if it were used as a direct replacement for those systems.

Response to Written Questions Submitted by Hon. Tammy Duckworth to Hon. Jennifer Homendy

Question 1. Close calls and runway incursions keep happening, including a particularly scary one in February at Chicago Midway where a landing Southwest flight came within 200 feet of striking a Flexjet that had mistakenly entered the runway that the Southwest flight was using to land. The Department of Transportation's Inspector General recently reviewed FAA's work to mitigate runway incursions and concluded that FAA's efforts to analyze runway incursion data and develop broader mitigation strategies was hindered by FAA not sharing data between organizations—and FAA's tendency to focus on issues at particular airports rather than looking for system-wide causes.

What would NTSB like to see FAA do to better address runway incursions?

Answer. In 2024, the NTSB issued 15 new recommendations to the FAA to address safety issues identified in our investigations of runway incursions in New York and Austin, Texas. They are provided below.

Recommendation	Overall Status	Recommendation
A–24–2	Open—Initial Response Received	TO THE FEDERAL AVIATION ADMINISTRATION: Encourage Title 14 *Code of Federal Regulations* Part 91K, 135, and 121 operators to incorporate into their standard operating procedures a procedural crosscheck that requires flight crews to verbalize the number of a runway they are about to cross, as indicated by runway signs, unless an installed automated system already provides an aural advisory.
A–24–3	Open—Initial Response Received	TO THE FEDERAL AVIATION ADMINISTRATION: Encourage Title 14 *Code of Federal Regulations* Part 121 operators to use their safety management system to identify flight crew surface navigation errors resulting from the performance of concurrent tasks during taxi and develop and implement effective risk mitigation strategies considering human factors principles.

Recommendation	Overall Status	Recommendation
A–24–4	Open—Unacceptable Response	TO THE FEDERAL AVIATION ADMINISTRATION: Collaborate with aircraft and avionics manufacturers and software designers to develop the technology for a flight deck system that would provide visual and aural alerts to flight crews of traffic on a runway or taxiway and traffic on approach to land. (Supersedes A–00–66)
A–24–5	Open—Unacceptable Response	TO THE FEDERAL AVIATION ADMINISTRATION: Require that the technology developed in response to Safety Recommendation A–24–4 be installed in all newly certificated transport-category airplanes. (Supersedes A–00–66)
A–24–6	Open—Unacceptable Response	TO THE FEDERAL AVIATION ADMINISTRATION: Require that existing transport-category airplanes be retrofitted with the technology developed in response to Safety Recommendation A–24–4. (Supersedes A–00–66)
A–24–7	Open—Initial Response Received	TO THE FEDERAL AVIATION ADMINISTRATION: Evaluate the effectiveness of the activation logic for the runway status light system considering the circumstances of this incident.
A–24–8	Open—Initial Response Received	TO THE FEDERAL AVIATION ADMINISTRATION: Using the findings of the evaluation conducted in response to Safety Recommendation A–24–7, update the runway status light system activation logic as necessary to improve system effectiveness.
A–24–9	Open—Unacceptable Response	TO THE FEDERAL AVIATION ADMINISTRATION: Require retrofit of all cockpit voice recorders (CVR) on all airplanes required to carry both a CVR and a flight data recorder with a CVR capable of recording the last 25 hours of audio. (Supersedes A–18–31)
A–24–10	Open—Initial Response Received	TO THE FEDERAL AVIATION ADMINISTRATION: For airports that are certificated under Title 14 *Code of Federal Regulations* Part 139 and are currently not equipped with airport surface detection equipment, model X or airport surface surveillance capability, implement surface detection equipment that • tracks the movement of arriving and departing aircraft, • determines the proximity between those aircraft, and • provides air traffic controllers with visual and aural cues of surface movements to aid in their decision making processes.
A–24–11	Open—Initial Response Received	TO THE FEDERAL AVIATION ADMINISTRATION: Require air traffic controllers to • advise pilots, through direct communication and automatic terminal information system broadcasts, when visual contact with aircraft operating on taxiways and runways cannot be established or maintained and • instruct pilots to provide accurate position reports to aid the controller in determining an aircraft's location in such conditions.
A–24–12	Open—Initial Response Received	TO THE FEDERAL AVIATION ADMINISTRATION: Brief all air traffic controllers about the circumstances of this incident, emphasizing the effect that certain conditions might have on a pilot's ability to begin a takeoff in a timely manner, including • low-visibility weather conditions, such as fog; • ambient conditions, such as temperature; and • surface conditions, such as ice, snow, and other precipitation, as noted in Order 7110.65, Air Traffic Control, paragraph 5–8–4, Departure and Arrival.
A–24–13	Open—Initial Response Received	TO THE FEDERAL AVIATION ADMINISTRATION: Amend the Aeronautical Information Manual so that it instructs pilots to inform controllers, before entering an active runway with the intent to depart, when they need time on the runway for any reason before beginning the takeoff roll.
A–24–14	Open—Initial Response Received	TO THE FEDERAL AVIATION ADMINISTRATION: Require all airports with a Surface Movement Guidance and Control System plan to ensure that their plans and the associated letters of agreement correspond with each other and the stakeholder duties and responsibilities described in Advisory Circular 120–57, Surface Movement Guidance and Control System.

Recommendation	Overall Status	Recommendation
A–24–15	Open—Initial Response Received	TO THE FEDERAL AVIATION ADMINISTRATION: Direct training administrators at airports with a Surface Movement Guidance and Control System plan to require initial and annual refresher training for all stakeholders, including air traffic controllers and airport operations personnel, on the information in the airport's plan.
A–24–16	Open—Initial Response Received	TO THE FEDERAL AVIATION ADMINISTRATION: Require training administrators at all operating air traffic control towers to conduct annual refresher training on low-visibility operations.

Question 2. NTSB's preliminary report documented some inconsistent information about the helicopter's altitude readings and determined that some of the altitude information on the helicopter's data recorder was invalid.

As NTSB continues its investigation, what will it do to learn what the helicopter pilots knew about their altitude and whether their equipment was working properly?

Answer. Numerous components from the Black Hawk will be examined, including the barometric altimeters, air data/pitot static system, radio altimeters and their antennas, transponder, and electronic standby instrument system. The examinations will look for any anomalies with the instruments/components, witness marks, and nonvolatile memory. In addition, flight data recorder (FDR) information will continue to be reviewed and compared with any additional data obtained from follow-up examinations in an effort to better understand the invalid pressure altitude recorded on the FDR.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JACKY ROSEN TO HON. JENNIFER HOMENDY

Question 1. Aviation professionals are only as effective as the infrastructure and technology they rely on. According to the FY24 President's Budget, the average age of an FAA Air Traffic Control facility is 61 years old, and more than 50 percent of terminal facilities are more than 40 years old. These facilities regularly operate with degraded technology systems, resulting in a lack of accurate wind speed and direction calculations, the failure of radio frequencies within congested airspace, and the malfunctioning of runway lights, just to name a few. Many airports also lack functioning radar systems used to track airborne and taxiing planes, meaning that some controllers have no visual awareness of the aircraft they are directing, especially in poor weather conditions.

In lieu of functioning radar systems in Air Traffic Control facilities, many controllers are resorting to using public flight-tracking websites that aren't approved by the FAA to fill the gaps.

Perhaps most alarming are the reports that the FAA lacks the funding to install runway warning systems to help prevent runway collisions. Only 43 of the Nation's more than 500 airports serving commercial flights have runway collision-avoidance systems. This is simply not good enough.

Chair Homendy how can we improve the existing technology and infrastructure utilized by air traffic controllers and aviation professionals to reduce potential risk and manage congested airports and complicated airspace at our Nation's airports?

Answer. In 2024, we recommended that, for major airports that do not have runway surveillance systems such as ASDE–X or ASSC, the FAA should implement surface detection equipment that:

- tracks the movement of arriving and departing aircraft,
- determines the proximity between those aircraft, and
- provides air traffic controllers with visual and aural cues of surface movements to aid in their decision-making processes.

The FAA's Surface Safety Portfolio, which includes SAI, Approach Runway Verification (ARV), and Runway Incursion Devices (RID), has the potential to improve safety—particularly the SAI, which is providing enhanced situational awareness for controllers at those airports that previously had no surface detection capability. However, efforts should be made to incorporate aural and visual alerting and conflict resolution to be more on par with what ASDE–X/ASSC systems deliver today.

In addition, the NTSB has long believed in the safety benefits of ADS–B Out and In. ADS–B Out enables an aircraft to broadcast its three-dimensional position (latitude, longitude, and altitude) to other ADS–B-equipped aircraft and to ADS–B ground stations. ADS–B In enables an aircraft to receive traffic messages from ADS–B Out-equipped aircraft and from ADS–B ground stations. Although the FAA requires ADS–B Out for aircraft operating in certain classes of airspace, with certain exceptions for national security reasons, it does not require ADS–B In. The NTSB believes that equipping aircraft with ADS–B In capability would immediately and substantially contribute to safety, especially during operations in and around airports.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. TED CRUZ TO CHRIS ROCHELEAU

Question 1. On March 27, 2025, you sent letters to the Department of Defense, the National Aeronautics and Space Administration, the Department of Justice, and the Department of Homeland Security, clarifying the FAA's ADS–B Out requirements and the exceptions for missions critical to national security. Section 829 of the FAA Reauthorization Act of 2024 prohibits enforcement action based exclusively on ADS–B data. What authorities does the FAA have to enforce the ADS–B Out equipage and transmission requirements?

Answer. The FAA has retained its authority to enforce ADS–B Out equipage and transmission requirements. However, the FAA's practical ability to enforce those requirements has been significantly impeded by the limitation in section 829 of the FAA Reauthorization Act of 2024. Pub. L. No. 118–63, § 829 (2024). Section 829 prohibits the FAA from initiating an investigation (other than a criminal investigation) based exclusively on ADS–B data. Prior to the enactment of section 829, the FAA's primary method of identifying noncompliance with ADS–B Out equipage and transmission requirements was reviewing ADS–B data, which, when combined with radar data, can allow for the identification of aircraft operating without properly functioning ADS–B Out equipment. The FAA could then investigate those operations, communicating with aircraft owners to ensure that their ADS–B Out equipment was returned to a functional state or, less commonly, taking enforcement action where appropriate (*e.g.,* where an investigation determined that an operator was intentionally operating without ADS–B Out equipment turned on). Under section 829, these investigations are no longer possible. Nor are the enforcement actions that could result from those investigations.

Subject to the significant restrictions imposed by section 829, the FAA does retain the authority to enforce ADS–B Out requirements. For example, if a hotline complaint is submitted to the FAA about an illegal charter operation or an FAA inspector personally observes a low flight, ADS–B data may be consulted in the course of those investigations, which could reveal that the aircraft did not meet ADS–B Out equipage and transmission requirements. Or a report might be submitted to the FAA specifically about an ADS–B Out violation, which the FAA could then use ADS–B Out data to confirm. In these uncommon scenarios, the FAA would be able to take an enforcement action against an operator using its authority under 49 U.S.C. §§ 44709 or 46301.

Question 2. During the hearing on March 27, 2025, questions were raised regarding the FAA's ability to override the exemption in the NDAA which allowed for exceptions to the FAA's ADS–B Out transmission requirements. Does the FAA have the authority to rescind any exemption from the ADS–B mandate for the U.S. military?

Answer. The FAA has full authority "to operate air traffic control services to ensure the safe minimum separation of aircraft in flight and the efficient use of airspace," to include terminating any authorization to deviate from regulatory requirements concerning ADS–B Out *transmission* and *equipage* or revising the Memorandum of Agreement (MOA) it has with DOD concerning the provision of air traffic services to DOD aircraft that are not *transmitting* or *equipped* with ADS–B. *See* Pub. L. No. 115–232, div. A, title X, § 1046(c) (2018) (providing that nothing in section 1046 limits the FAA's authority to operate air traffic control services to ensure the safe minimum separation of aircraft in flight and the efficient use of airspace).

Under section 1046(a) of division A, title X, of the John S. McCain National Defense Authorization Act for Fiscal Year 2019, the Secretary of Transportation may not require DOD to equip certain aircraft with ADS–B, deny air traffic control services for such aircraft on the basis that they are not equipped, or restrict or limit access to airspace based upon equipage. Pub. L. No. 115–232, div. A, title X, § 1046(a) (2018). FAA and DOD have an MOA, which sets out the process for accom-

modating aircraft that are not equipped with ADS–B and providing necessary air traffic control services to such aircraft to maintain safety in the NAS. Accordingly, the prohibitive language in section 1046(a) is no longer effective, as provided in section 1046(b).

Even if section 1046(a) were effective, the FAA retains full authority to revise the MOA as required to operate air traffic control services to ensure the safe minimum separation of aircraft in flight and the efficient use of airspace under section 1046(c), and the FAA is currently working with DOD to revise the MOA following the DCA accident.

As for the ADS–B Out *transmission* requirement, 14 CFR § 91.225(f)(1) allows the FAA to authorize a deviation from the transmission requirement for aircraft "performing a sensitive government mission for national defense, homeland security, intelligence or law enforcement purposes and transmitting would compromise the operations security of the mission or pose a safety risk to the aircraft, crew, or people and property in the air or on the ground" *when authorized by the FAA.* The FAA retains discretion to terminate an authorization to deviate from the ADS–B Out transmission requirement. Section 1046(a) of Pub. L. No. 115–232, div. A, title X only addressed the equipage requirement. As mentioned above, we are working with DOD to revise the MOA as it concerns authorization to deviate from the ADS–B transmission requirement.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHN THUNE TO CHRIS ROCHELEAU

Question 1. Consistent with the mandate in the 2024 FAA reauthorization, can you describe what steps the FAA is taking to address air traffic controller hiring shortfalls?

Answer. The FAA is reviewing our hiring, training, and placement processes, as well as FAA Academy withdrawals and failures, to ensure our selection methods effectively identify candidates best suited for the Air Traffic Control Specialist profession. To ensure we meet or exceed our hiring goals, we have:

- Supercharged hiring—Streamlined the hiring process and built in efficiencies that will reduce the time to complete the process by as much as five months.
- Increased the starting salary rate of Track 1 entry-level hires by 30 percent while attending the FAA Academy.
- Offered financial incentives to retain our most experienced controllers who are eligible to retire. Certified professional controllers in this group will receive a lump sum payment of 20 percent of their basic pay for each year they continue to work.
- Established the Enhanced Collegiate Training Initiative (E–CTI), which gives qualifying colleges the opportunity to teach the same curriculum provided by the FAA Academy. Upon graduation, with a successful result on the Air Traffic Skills Assessment (ATSA), students who clear all pre-employment requirements (medical, security) are placed directly at a field tower facility.
- Increased the frequency of Track 1 entry-level (no aviation experience required) job announcements. Typically, the FAA publishes the Track 1 announcement once per year, and this year we have advertised the position three times in the past 12 months. This effort has increased the pipeline by approximately 30 percent, placing us on track to meet the FY25 goal of hiring 2,000 ATCs.
- Authorized on-the-spot hiring (similar to direct hire authority for most other government agencies) for Track 2 entry-level positions (ATC experience required) and utilized an open continuous announcement to garner applicants year-round. Previously, the FAA only announced these positions twice per year—once in the Spring and once in the Fall.
- Implemented Pre-Employment Processing Centers (PEPC) to expedite clearances, providing a "one-stop-shop" for pre-employment requirements. The FAA established PEPCs in New York, Georgia, Texas, and California to reach the largest applicant geographical locations across the Nation.

Question 2. Can you describe what actions the FAA is taking to streamline the implementation of new technologies and improve safety of the Nation's ATC system?

Answer. Recognizing the need for advanced technologies to keep pace with innovation and modernize the air traffic control system, the ATO has begun to replace or deploy new infrastructure to maintain the safety and efficiency of the national airspace system (NAS):

- Implementation of the *Surface Safety Portfolio:*
  - Expands surface situational awareness for air traffic controllers at airports without existing surface surveillance capabilities.
- Improvement of telecommunications reliability—including fiber, wireless, and satellite.
- Implementation of cloud services to transition the NAS to a secure, scalable, and centrally managed enterprise cloud environment.
- NOTAM modernization efforts to replace the U.S. NOTAM System and Federal NOTAM System.
  - Modernizing this system is crucial to enhance its reliability, accessibility, and user-friendliness. The system will be securely hosted in the cloud and have a scalable and resilient architecture. We expect delivery by July 2025 and are targeting operational deployment of the modernized system by September 2025.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JERRY MORAN TO CHRIS ROCHELEAU

Question 1. According to the NTSB, between October 2021 and December 2024, there were more than 15,000 instances of commercial aircraft coming in close proximity to helicopters. Of those events, 85 had vertical separation of less than 200 feet. How many of those 85 events involved military helicopters? How many of those close call events involved U.S. Army helicopters?

Answer. We understand the NTSB likely was referring to narrative reports that pilots may voluntarily submit. We do not have granular information on the dataset the NTSB was referring to, but we acknowledge that changes were necessary related to procedures and helicopter routes that would have allowed helicopters and fixed-wing aircraft to be in close proximity. To that end, the FAA has eliminated mixed traffic immediately around DCA, eliminated a portion of Helicopter Route 4, and eliminated the use of visual separation within 5 miles of the airport.

Question 1a. What factors contributed to the FAA's dilatory identification of these alarming data and lack of action to mitigate dangerous conditions in the airspace prior to the January 29th collision?

Answer. Successful safety assurance and hazard identification require analyzing large amounts of data from various sources to understand the presence of risk within the system. We are making improvements both in data sharing across the agency and through the use of advanced technological tools, including advanced models for the analysis of safety reports, capabilities that enable the automated identification and ranking of high potential risk encounters, capabilities that fuse contextual datasets to translate information on potential risk to actual risk, and collision risk models that use simulations and artificial intelligence (AI) to identify specific operations that do not meet collision risk targets.

Question 1b. Please describe the process by which the FAA shares information—including the data recalled above—with entities conducting aviation operations in the National Capital Region airspace. Is this information-sharing regime consistent across the NAS?

Answer. Any agency may request data specific to its fleet from the FAA, and we process those requests as described in FAA Orders JO1030.3B and JO7200.20B. We also provide information to industry via the Aviation Safety Information Analysis and Sharing system (ASIAS).

Question 2. Please describe the "D.C. Helicopter Working Group".

Answer. The DC Helicopter Working Group is a mixture of FAA and users of the airspace around DCA who convened for the purpose of development of a new helicopter route or corridor that supports national security, law enforcement, and medical helicopter flight operations. This published route or corridor will replace the legacy Route 4 (on the Baltimore Washington Helicopter Route Chart), enhancing efficiency for critical missions while maintaining the highest safety standards.

Question 2a. Who are the entities participating in this working group? Chairwoman Homendy described there to be 17 entities taking part in this working group.

Answer. The following entities participated in the working group:

1. Prince George's County Police
2. Fairfax County Police
3. Metro Police

4. US Army
5. US Air Force
6. MD State Police
7. US Coast Guard
8. US Marine Corps
9. Medstar

Question 2b. Describe the parameters for which this working group is studying.

Answer. As noted in response to question 2 above, the parameters are the development of a new helicopter route or corridor that supports national security, law enforcement, and medical helicopter flight operations. This published route or corridor will replace the legacy Route 4 (on the Baltimore-Washington Helicopter Route Chart), enhancing efficiency for critical missions while maintaining the highest safety standards.

Question 2c. Is this working group analyzing the other 46 helicopter operators in the National Capital Region?

Answer. The task the group is focused on is meant to support how national security, law enforcement, and medical helicopter flight operations occur within the National Capital Region.

Question 3. Is a flyover of Arlington National Cemetery considered an essential operation?

Answer. Flyovers are operations that we normally coordinate with the Department of Defense (DOD). We are refining our coordination procedures with DOD for military operations in the Washington, D.C. area.

Question 4. Do you think the FAA's tolerance for risk was too high prior to January 29th?

Answer. Aviation safety is the FAA's number one priority. While flying remains the safest mode of transportation, aviation safety is not static. There is always room for improvement. The professionals at the FAA take their jobs seriously and strive to maintain safety every day. But the fact of the matter is that we have to do better. We have to identify trends, we have to get smarter about how we use data, and when we put corrective actions in place, we must execute them.

Question 5. Please describe the advanced technological tools the FAA is utilizing to aggregate data to better analyze the airspace operations at the high mixed-traffic airports.

Answer. The FAA's ASIAS program is utilizing advanced technological tools, including advanced models for the analysis of safety reports, capabilities that enable the automated identification and ranking of high potential risk encounters, capabilities that fuse contextual datasets to translate information on potential risk to actual risk, and collision risk models that use simulations and AI to identify specific operations that do not meet collision risk targets.

Predictive software, coupled with AI textual data large language modeling applications, will provide a clearer holistic picture of the collision risk by fusing both voluntarily submitted information with Flight Operational Quality Assurance data.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. SHELLEY MOORE CAPITO TO CHRIS ROCHELEAU

Question 1. Acting Administrator Rocheleau, there has been a focus on how many pilots voluntarily reported close calls to the FAA's safety reporting system—these calls averaged at least one per month for more than a decade. Were these reports by pilots investigated?

Answer. The FAA thoroughly investigates all voluntary safety reports submitted by a pilot and shared with the FAA. If a potential safety risk is identified, whether to the operation or the national airspace system, the FAA implements corrective actions, as appropriate.

Question 1a. What changes can be expected to be made when a considerable number of reports like these are made?

Answer. If the FAA identifies an increase in the number of reports involving close calls, we conduct an analysis to determine whether the increase in reports equates to an identification of new or increased risk. If a risk is identified, appropriate mitigations will be developed and implemented, to include ensuring that the performance and effectiveness of the safety risk controls meet or exceed the safety objective of driving down the risk to an acceptable level in accordance with FAA's safety risk management processes.

The FAA implements specific corrective actions based on the safety issue or event to mitigate the identified safety risk. In addition, when a significant event occurs or a substantial number of reports are received, the FAA conducts a thorough review of current controller training programs. This evaluation not only helps to derive insights from the reports but also ensures that future controller training initiatives are aligned with the goal of continuing to equip controllers with the skills necessary to prevent similar situations. The aim is to continually enhance training effectiveness.

Question 1b. Have these pilot reports not only for DCA but for other airports been thoroughly reviewed?

Answer. Yes, the FAA thoroughly investigates all voluntary safety reports submitted by a pilot and shared with the FAA. If a potential safety risk is identified, whether to the operation or the national airspace system, the FAA implements corrective actions, as appropriate.

Question 1c. Can you provide the number for how many reports have been made relating to West Virginia airports in the last 5 years?

Answer. The ASIAS database contains active reporting for the primary commercial service airports in West Virginia: Charleson-CRW, Clarksburg-CKB, Huntington-HTS, and Lewisburg-LWB. There are no Near Mid Air Collisions (NMAC) reports in the last 5 years at these airports.

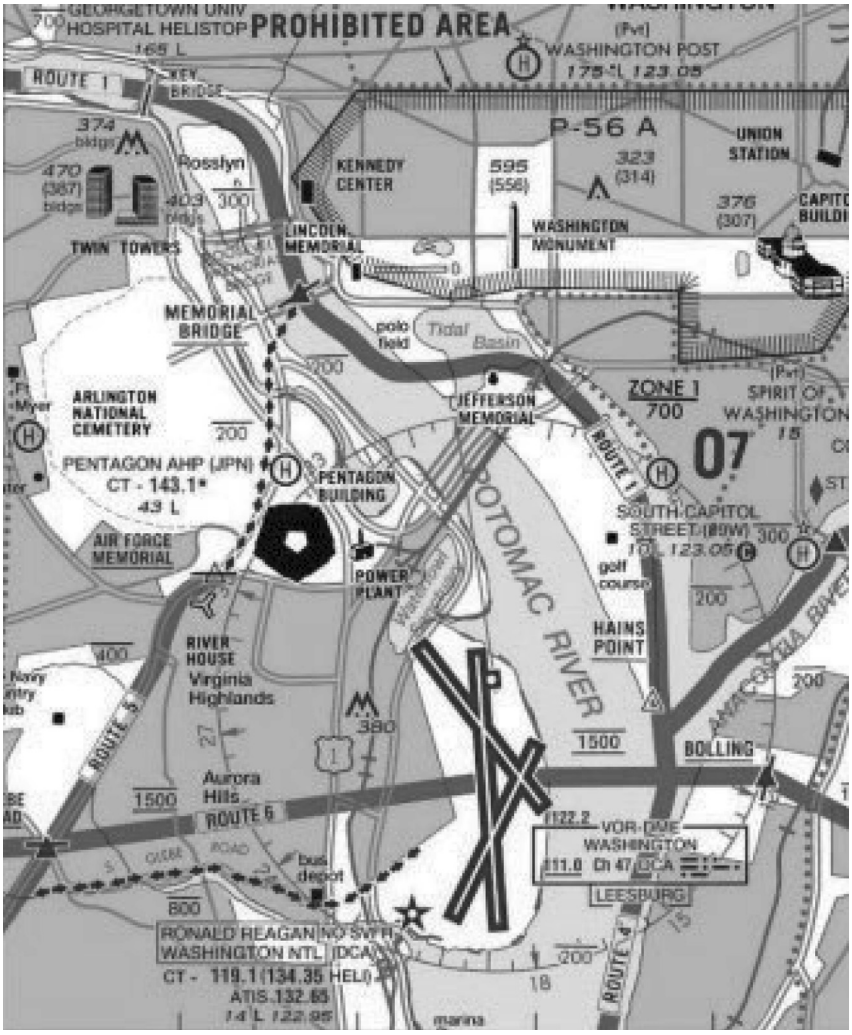
Question 2. Please tell us more about the voluntary safety reporting system. Does the system account for specific NTSB style data points or is it a pilot saying I came within approximately this many feet of a helicopter?

Answer. The primary objective of voluntary safety programs is to identify hazards and unsafe conditions in the NAS so that corrective action can be taken to eliminate or reduce the hazards or unsafe conditions. The FAA reviews the data from these reports to identify causal or contributing factors, which support event categorization, risk analysis, and data trending. This information can provide context to understand a problem or emerging risk in the system.

For example, the Aviation Safety Reporting System (ASRS) captures specific data points concerning the pilot, the aircraft, the airspace, location, and weather conditions, but also allows the pilot to provide a narrative to clarify and provide additional details about the event. ASRS reports are confidential. ASRS analyzes the safety data, de-identifies it, and disseminates vital information to the aviation community.

Question 3. In your testimony you mentioned the Safety Panel you have put together in response to the collision and how the FAA is using AI to see if other safety concerns have been overlooked. Does that extend only to fixed-wing and rotorcraft incidents or other types of safety incidents?

Answer. The effort included a review of operations (not incidents) between fixed-wing to helicopters and fixed-wing to fixed-wing to determine if there were any safety concerns.



Question 4. In the preliminary report there is a map of all the helicopter routes in the area (see above). Route 6 goes across the airport and the runways East and West. Has that route had close calls reported to it as well or was Route 4 the only one?

Answer. For Route 6, there were four (4) reported operations (1/1/2021–1/31/2025) in which fixed-wing aircraft and helicopters had a closest proximity of less than the required 500' vertical separation. The portion of Route 6 in the vicinity of DCA has been closed and removed from the published helicopter charts to mitigate any potential risk.

Question 5. We have heard that there are not specific lateral boundaries to any of these helicopter routes, but there are vertical boundaries. My fear is that with such loose designations for these routes it would be easy for a helicopter to easily go wide and deviate. DC has the most sensitive airspace in the country but what recourse or discipline is there if a chopper deviates and ends up in the ultra-restricted air space above the National Mall or takes one of these routes wide or at too high of an altitude?

Answer. Helicopters, like other aircraft, are required to comply with the FAA's safety regulations, including 14 C.F.R. § 91.123, which requires compliance with

ATC clearances and instructions. For a civilian aircraft, the FAA may address deviations from ATC clearances or instructions with compliance action, including remedial training, or enforcement action, including the suspension of an individual's pilot certificate, as authorized under 49 U.S.C. § 44709(b)(1)(A). For any violation of the DC Special Flight Rules Area (SFRA) and DC Flight Restricted Zone (FRZ), as described in Part 93, subpart V, the FAA may similarly suspend or revoke a pilot's airman certificates or impose civil penalties. 14 CFR § 93.333. For violations committed by members of the armed forces while performing official duties for the Department of Defense, the FAA refers the violation to the appropriate branch of the military pursuant to the military referral process required under 49 U.S.C. § 46101(b).

Additionally, if a pilot knowingly or willfully violates national defense airspace established pursuant to 49 U.S.C. 40103(b)(3), including the DC SFRA and DC FRZ, the pilot may be subject to criminal prosecution, including a fine under title 18, or imprisonment for not more than one year, or both. 49 U.S.C. § 46307. The FAA refers such criminal conduct to the Office of Inspector General (OIG) or to the Department of Justice, if appropriate, for criminal investigation under 5 U.S.C. app. 3.

Question 6. In your testimony you mentioned that only some emergency and special helicopter traffic will continue in the vicinity of DCA and only when that air space is closed to planes. Can you quantify how many of these operations are still occurring? Is it twice a day or more frequently on average?

Answer. For the period February 19, 2025 through April 30, 2025 (71 days), there were 45 special helicopter operations, averaging a little more than half of 1 (0.63) special helicopter operation per day, within this airspace operating at or below 1500 feet.

Regarding the number of operations that are *still occurring,* between May 1, 2025 and May 20, 2025 (20 days), there have been 23 special helicopter operations, averaging a little more than 1 (1.15) special helicopter operation per day.

Question 6a. How much of a boundary between that airspace is there and how long is the fixed-wing traffic halted?

Answer. On average, presidential-related operations may pause traffic for 9 to 12 minutes, while lifesaving medical-related operations may cause a 5-to-7-minute pause to fixed-wing traffic. Active law enforcement and/or air defense missions are more fluid.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. AMY KLOBUCHAR TO CHRIS ROCHELEAU

Question 1. On Friday, March 28, 2025, a U.S. Air Force jet flew within 500 feet of a Delta Airlines passenger jet departing Reagan National Airport to Minnesota. What is the status of investigations into this incident?

Answer. The FAA has completed its preliminary investigation into the March 28 event at Reagan National Airport. Through our Safety Management System, we continue to identify hazards and implement safety measures at the airport and across the National Airspace System.

Question 1a. How is the FAA and Department of Defense working to ensure similar incidents do not happen in the future?

Answer. The FAA is working on refining coordination procedures between air traffic facilities, and internal to air traffic facilities, for military operations in the Washington D.C. area. This includes specific, clear communication for stopping arriving and departing traffic from Reagan Washington National (DCA) to accommodate those operations when necessary. The FAA is also taking steps to ensure controllers are briefed and have required, specific information prior to scheduled aerial flyovers, including routes of flight and timing. Collaboratively, the FAA and military partners are addressing pertinent Letters of Agreement (LOA) and communication surrounding aerial flyovers to ensure all entities have the same expectations and operations can be conducted safely in the area.

Question 2. There has been an alarming number of close calls on runways in the past couple of years. Just last month, there were close calls involving landing aircraft at Chicago Midway Airport and DCA. I led a provision in the FAA reauthorization bill to ensure planes are equipped with technology that alerts pilots of nearby planes on the runway to help them avoid collisions.

Can you provide an update on the implementation of this provision and adoption of this technology?

Answer. Section 347 in the 2024 FAA Reauthorization required the FAA to establish the Runway Safety Council and identify both surface surveillance equipment

and equipment on aircraft that "may improve onboard situational awareness for flight crewmembers, including technologies for use in an aircraft." The section then directs deployment of surface surveillance technologies over 5 years.

Regarding technologies on aircraft, while the section does not establish equipage requirements or direct the FAA to establish equipage requirements, it does note that the FAA should identify technologies and systems that would enhance safety and onboard situational

awareness. Consistent with that direction, we have tasked the Investigative Technologies Aviation Rulemaking Committee (ARC) to seek recommendations on cockpit alerting technologies designed to reduce runway safety events.

That ARC, comprised of government and industry stakeholders, has been meeting, and we will review recommendations when that work is complete.

Question 3. The primary NOTAM system experienced outages on February 1 and March 22 that each lasted multiple hours. Last year, I worked with Senators Moran and Capito to pass the NOTAM Improvement Act directing the FAA to immediately upgrade this system. While the backup system is now in place and was activated to respond to recent outages, more work must be done to make all necessary upgrades.

Can you provide any information on this outage and where things stand with the NOTAM Task Force?

Answer. The recent Notice to Airman (NOTAM) outages were caused by hardware failures on the motherboards of the United States NOTAM System (USNS) servers. The system's architecture is over 30 years old, with the current hardware having been in continuous operation for approximately 15 years. On February 1, 2025, the hardware failure rendered the USNS system unrecoverable. Within an hour, the technical team determined that equipment recovery was not possible and initiated failover procedures. Due to the age and design of the system, the failover process takes a minimum of four hours, and the full restoration of the system took approximately 12 hours. To mitigate future outages, the team took immediate steps following the February 1, 2025, event by staging spare servers and developing a rapid hardware swap process. As a result, when a similar motherboard failure occurred on March 22, 2025, the team was able to return the system to full functionality in less than four hours, without needing to activate the Candidate NOTAM Contingency System (CNCS). USNS resumed processing NOTAMs within two hours.

In August 2024, the FAA pivoted to complete NOTAM Modernization utilizing a Challenge-Based Acquisition strategy to develop an innovative solution that leverages advancements in technology, high-availability architecture, and resilient infrastructure. The FAA selected the vendor to work on this modernization in April 2025, and the new NOTAM service is on track for delivery in July 2025 and deployment by September 2025. The FAA is also looking to accelerate user transition. This enables the FAA to implement our digitalization strategy by transitioning from the current legacy NOTAM system to an integrated NOTAM Management Service (NMS).

The NOTAM Task Force submitted recommendations, now under review, in accordance with Pub. L. 118–4 (NOTAM Improvement Act) and NTSB Safety Recommendation A–18–024.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. TAMMY DUCKWORTH TO CHRIS ROCHELEAU

Question 1. There is no question that there is an air traffic controller shortage and that we need to do more to address it. As we discussed in the hearing, there may be certified air traffic controllers are ready and able to return to work—but are just waiting on medical clearances. How many controllers around the country are waiting for medical clearances to return to work?

Answer. As of May 8, 103 air traffic controllers are awaiting medical clearance to return to work. Of those 103 controllers, approximately 80 percent have a medical condition that requires further evaluation from their own physician, which they must provide to us before we can make a determination concerning their medical clearance.

Question 1a. What is FAA doing to make sure these medical reviews are happening in a timely manner?

Answer. FAA Order 3930.3C requires the Office of Aerospace Medicine to complete a medical clearance within 20 days of receiving of all medical documents. Over the last year, the national average has been 9.9 calendar days. We have identified efficiencies and engaged in effective management oversight to ensure our review is completed in a timely manner.

Question 2. In October, the Department of Transportation Inspector General reported that shortly before the 737 MAX 9 door plug blowout, individuals within FAA wanted to delegate airplane airworthiness inspection authority back to Boeing without any criteria by which to assess whether Boeing could be trusted to properly carry out these inspections. When Boeing last had this authority for the 737 MAX, Boeing abused it. Boeing knowingly and repeatedly produced 737 MAX aircraft with nonfunctioning Angle of Attack Disagree alerts—in blatant violation of the plane's approved type design.

Will FAA commit to NOT delegating airworthiness inspection authority back to Boeing until FAA has implemented all 16 Department of Transportation Inspector General Recommendations in its October 9, 2024 report, "FAA's Oversight Processes for Identifying and Resolving Boeing Production Issues Are Not Effective"?

Answer. The FAA will utilize all relevant safety data when making a determination regarding airworthiness inspection authority. Safety has no timeline, and the FAA will continue to hold Boeing accountable.

Question 3. Following the 737 MAX 9 door plug blowout, FAA imposed a cap of 38 airplanes per month on Boeing's 737 MAX production. Will FAA commit to NOT raising the monthly cap on 737 MAX aircraft production until FAA has implemented all 16 Department of Transportation Inspector General Recommendations in its October 9, 2024 report, "FAA's Oversight Processes for Identifying and Resolving Boeing Production Issues Are Not Effective"?

Answer. The FAA will utilize all relevant safety data when making a determination regarding Boeing's production rates. Safety has no timeline, and the FAA will continue to hold Boeing accountable.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JACKY ROSEN TO CHRIS ROCHELEAU

Question 1. In response to this crash, Secretary Duffy announced a plan to boost air traffic control hiring with 30 percent salary increases for newly hired controller trainees entering FAA's Air Traffic Control Academy.

Mr. Rocheleau, my team has heard from our air traffic controllers that these increases are only temporary, and compensation resets to the lower level once training for new controllers is complete. Is this correct? And could you provide an update on the progress of this effort and any promising data you have seen on this front?

Answer. Effective March 9, 2025, all current trainees enrolled in the Federal Aviation Administration (FAA) Academy's Air Traffic Control (ATC) entry-level training program, along with individuals enrolled on or after that date, received a 30 percent salary increase. This adjustment applies specifically to newly hired and existing ATC trainees during their time at the FAA Academy and raises their annual salary—including locality pay—to $47,763.

Upon successful completion of academy training, these trainees—who are initially appointed under temporary status—are converted to permanent positions and assigned to an en-route or terminal facility. At that point, their base compensation is determined in accordance with the National Air Traffic Controllers Association (NATCA) Collective Bargaining Agreement (CBA) under the *Air Traffic Specialized Pay Plan (ATSPP).*

In all cases, upon graduation, these trainees become academy graduates and are paid in accordance with the CBA. The salary of an academy graduate is higher than what they are paid as students, though the exact amount varies according to locality.

Question 2. Can you discuss the challenges in hiring process for air traffic controllers, any other recent changes that have been made to the process, and any ways you are planning to improve the process to hire more controllers?

Answer. The FAA is reviewing our hiring, training, and placement processes, as well as academy withdrawals and failures, to ensure our selection methods effectively identify candidates best suited for the Air Traffic Control Specialist profession.

We have identified certain challenges in the controller hiring process including:

- Identifying candidates who possess the necessary aptitude for the position and can meet the medical requirements. In recent years, over 50 percent of our ATC applicants have encountered health issues, with conditions more commonly associated with older adults than with the targeted age demographic of 18–30 years.
- A growing number of applicants with issues that can affect the processing of security clearances. For example, they may not understand that Federal law is

different from state law regarding the use of marijuana or be unaware that financial difficulties may hinder eligibility for employment or security clearances.

To enhance efficiency, we have streamlined hiring by automating qualification assessments, enabling applicants to progress at their own pace while medical and security evaluations are conducted concurrently. These improvements are designed to accelerate the hiring process while effectively identifying candidates best suited for the Air Traffic Control profession.

Enhanced Air Traffic-Collegiate Training Initiative (Enhanced AT–CTI): In April 2024, the FAA introduced Enhanced AT–CTI to create an additional pipeline for air traffic controllers by authorizing institutions to provide the same comprehensive curriculum offered at the FAA Academy.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. TED CRUZ TO BRIGADIER GENERAL MATTHEW BRAMAN

Question 1. Prior to our hearing where you testified, my staff was made aware of a memo which I understand outlines the policies and procedures for the Army's use of ADS–B in the National Capital Region. This memo was previously denied to my staff. On the day of the hearing, you promised to review the information and look at providing it to the Commerce Committee. Will you commit to immediately produce an unredacted copy of the memo "ADS–B Out Off Operations in the National Airspace" for the Commerce Committee staff?

Answer. On April 2nd, 2025 the memo along with applicable background material was released to the HASC and SASC.

Question 2. During the hearing, you were asked how frequently ADS–B Out is turned off. You committed to answering this in questions for the record. How frequently does the U.S. Army disable ADS–B Out during flights? Please specifically include data to justify your answer. If you choose to use a term of art to describe differing categories of missions or flights, please give data for those categories of flights as both a numerator and denominator.

Answer. The Army's policy on utilization of Automatic Dependent Surveillance—Broadcast (ADS–B) Out is in accordance with the Memorandum of Agreement between the Department of Defense (DOD) and the Federal Aviation Administration (FAA). The U.S. Army Aviation Brigade's (TAAB) previous adherence to Army policy regarding ADS–B is part of the Army's ongoing investigation of the January 29 accident near Reagan National Airport (DCA). At the conclusion of the investigation, releasable information will be made available to the Committee.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JERRY MORAN TO BRIGADIER GENERAL MATTHEW BRAMAN

*Question 1.*According to the NTSB, between October 2021 and December 2024, there were more than 15,000 instances of commercial aircraft coming in close proximity to helicopters. Of those events, 85 had vertical separation of less than 200 feet. How many of those 85 events involved military helicopters?

Answer. The data used to inform the National Transportation Safety Board's (NTSB) preliminary report resides with the Federal Aviation Administration (FAA) and subsequently the NTSB. The Army has requested to examine the data.

Question 1a. Please describe the process by which the Army shares information regarding aviation safety with the FAA. Is this information-sharing regime consistent across the NAS?

Answer. The entry point for the Army is the OSD led Policy Board on Federal Aviation (PBFA) to address multi-Service aviation related issues with the FAA. Department of the Army Representatives (DAR) interact daily with FAA officials on a wide spectrum of aviation topics including: Unmanned Aircraft Systems (UAS) airspace access; airspace proposals; environmental impacts; 5G impacts to aviation; and adjudicating pilot deviations among many other functions.

The Army Safety Management Information System (ASMIS) database is the database of record for mishap, near miss, hazards, inspections, and safety and occupational health (SOH) management. The Army has no formal mechanism to share data from ASMIS with the FAA. DARs receive Mandatory Occurrence Reports (MOR) from the FAA's Air Traffic Organization. MORs record reportable events that occur in the national airspace. DARs process and ensure Army adjudications of any pilot deviation reported in the MOR. MORs are captured in FAA databases that the Army does not have access to. The Army is committed to supporting any effort to

mitigate risk in the national airspace to include improving data sharing between the Department of Defense (DOD) and FAA.

Question 2. The NTSB's report indicates that the PAT25 pilots reported discrepant altitude readings on repeated occasions in the leadup to the crash, but based on the NTSB's preliminary report, at no point were those discrepant readings reconciled. How do Army Aviation crews typically reconcile discrepant altitude readings? Are discrepant altitude readings internal to a crew standard for Army Aviation missions? What would typically account for discrepant altitude readings internal to an Army Aviation crew?

Answer. Discrepant altitude readings internal to a crew are atypical for Army Aviation missions. Crews utilize the coordination elements, basic qualities, and objectives found in the Army Aircrew Coordination Training Program to effectively share tasks and information to resolve an unforeseen event such as diagnosing a potential discrepant altitude reading. The NTSB investigation has not yet determined the reason for the crewmembers of PAT25 stating different altitudes, their subsequent actions, or the actual instrument readings at that time.

Discrepant altitude readings could potentially result from crewmembers looking at different altimeters (barometric versus radar), incorrect or different altimeter settings dialed into the Kollsman window on the two independent barometric altimeter systems in the UH–60L, or actual maintenance faults. In addition, each barometric altimeter has an allowable margin of error of plus or minus 75 feet which is consistent with the FAA standard.

Question 3. Do you have a standard in place for The Army Aviation Brigade to conduct routine maintenance and testing to determine whether equipment, *i.e.,* ADS–B Out, is working?

Answer. At the time of the hearing, there was no scheduled maintenance or formal inspection ADS–B Out operations. Since that time, the Army established testing and maintenance tracking procedures to ensure the functionality and use of ADS–B Out. The maintenance actions are codified in an Aviation Safety Action Memo (ASAM) and will be directed for use in a Department of the Army order.

Monthly, the FAA sends the Program Executive Office Aviation (PEO AVN) a spreadsheet identifying Army aircraft with ADS–B Out transmission issues. PEO AVN alerts the unit of the aircraft issues for resolution. The process was not formalized and as a result of the information the NTSB and Army investigators have identified in their preliminary findings has driven the Army to formalize this process.

Question 3a. Please describe that protocol.

Answer. Scheduled maintenance takes place anytime an aircraft phase, preventive maintenance service, or scheduled component replacement is conducted.

An unscheduled maintenance requirement occurs when an aircraft experiences an unexpected malfunction, premature component breakdown, or battle damage.

Regarding the ASAM, units will be required to train personnel on the testing, functionality, and repair criteria. Units will document the testing and validate the serviceability of the equipment.

Question 3b. How often does that routine maintenance testing occur?

Answer. The ASAM release re-baselines the functionality of all ADS–B systems. The Army is codifying a policy to validate use and function of the system before each flight to include internal test procedures and FAA ATC stations to validate transmissions.

Question 3c. What occurs following the routine maintenance should a piece of equipment not be operating correctly? How is that documented and reported up the chain of command?

Answer. If a piece of equipment is found to be inoperable, the flight crew or maintenance personnel will enter the fault into the Aircraft Inspection and Maintenance Record. Aircraft maintenance personnel will conduct troubleshooting procedures in accordance with the aircraft Electronic Technical Manual. Once the corrective maintenance is complete, the equipment will receive a Maintenance Operational Check or Maintenance Test Flight to confirm proper function.

When aircraft equipment repair or malfunction is cause for an aircraft to be nonflyable, this is reported through the Daily Status Report to the command.

Question 3d. Is that information reported to the Federal Aviation Administration?

Answer. The Army does not report maintenance status of aircraft or systems to the FAA. However, Army aircraft must meet communications requirements to operate in the National Airspace. Army crews are not authorized to operate in FAA airspace if they are unable to meet the equipment requirements. Adherence to this requirement is within the scope of the concurrent NTSB and AR 15–6 investigations.

Note: BG Braman indicated he would reply to this in the QFRs during the hearing.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. SHELLEY MOORE CAPITO TO BRIGADIER GENERAL MATTHEW BRAMAN

Question 1. Brigadier General Braman, in your testimony you mentioned that Night Vision goggle training is required for readiness in the area. By most accounts operating with these goggles in an urban environment means a limited sight range and washed out vision due to all the light.

What are the benefits to training in a congested urban environment with night vision goggles?

Answer. The Army Aviation Brigade's (TAAB) mission to provide 24-hour responsive rotary wing support to senior government and military officials for continuity of government operations requires its aircrews to operate and train in the National Capital Region (NCR) during day and night hours. Flying at night at low altitudes under NVGs is the standard for Army Aircrews and has been validated as the principle method for flight operations in the National Airspace and in combat in urban, rural and overwater environments. All Army aviators are trained to operate utilizing night vision goggles for nighttime flying because of the exponential increase in situational awareness. Army aviators have the authority to remove their goggles if they deem it advantageous due to very high light levels or other factors when normal scanning techniques are not sufficient. However normal scanning techniques using peripheral vision with googles on is still the most effective means for optimal vision at night in all environments especially urban.

Question 1a. Are night vision goggles still being used on the limited number of Army flights in the region?

Answer. Yes, night vision goggles provide pilots with an unmatched capability to improve situational awareness for nighttime flying as stated above.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO BRIGADIER GENERAL MATTHEW BRAMAN

Question 1. Black Hawk crewmember requirements. Army Regulation (AR) 95–1 requires two-pilot operations as the standard for night vision goggle (NVG) flights, with at least one pilot being NVG-qualified and current. In addition, a non-pilot crewmember, such as a crew chief, is required to be onboard to help with maintaining situational awareness.

Would a requirement for a 4th crewmember have made a difference in promoting situational awareness for the Black Hawk's flight crew? Why or why not?

Answer. Army Regulation 95–1 does not mandate minimum crewmember requirements specific to night vision goggle flights. The minimum aircrew requirement by the UH–60L Black Hawk operator manual is two pilots. In this instance there were three crewmembers.

The specific circumstances that led to the accident will be determined by the National Transportation Safety Board (NTSB) during its ongoing investigation. However, the Army has determined in the course of its safety investigation into the accident that PAT25's crew chief was seated on the left side of the aircraft, which was the same side American Airlines Flight 5342 approached from.

Question 2. Should the Army consider revising its minimum crew requirements for Black Hawk helicopter operations like that performed by the 12th Army Aviation Brigade?

Answer. The Army will review all regulations and policies and will take appropriate action based on the facts and recommendations of the ongoing investigations when complete. The minimum aircrew requirement by the UH–60L Black Hawk operator manual is two pilots. The unit commander and pilot in command determine the size of the crew based on factors associated with each mission, the environment, and an assessment of the crew. Should the NTSB determine the number of aircrews assigned to PAT25 to be a causal factor in the accident, the Army will review its minimum crew requirements for Black Hawk helicopter operations and take appropriate action.

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