



National Transportation Safety Board Aviation Accident Final Report

Location:	Edmonds, Washington	Accident Number:	SEA05MA202
Date & Time:	September 29, 2005, 21:13 Local	Registration:	N655GS
Aircraft:	Agusta A109A II	Aircraft Damage:	Destroyed
Defining Event:		Injuries:	3 Fatal
Flight Conducted Under:	Part 91: General aviation - Positioning		

Analysis

After dropping off a patient, the pilot and two flight nurses boarded the air ambulance helicopter for a dark night cross country flight from a hospital back to their base. A company VFR flight plan was filed. Radar data shows the helicopter departed the hospital, proceeded northbound over ocean water, following the coastline at an altitude of approximately 800 feet msl. Just prior to the loss of radar contact, the helicopter entered a left turn towards the west, away from the shoreline. No eye witnesses to the accident were located. A number of ear witnesses heard a low flying helicopter and then the sound of impact. The witnesses reported low clouds and restricted visibility in rain, mist and fog in the vicinity of the accident site. The closest aviation weather reporting station, located 5 miles northwest of the accident site, reported winds from the southwest at 6 knots, with visibilities restricted in light rain and mist, with a ceiling ranging from 200 to 800 feet. Conditions rapidly deteriorated within 30 minutes of the accident, with visibilities lowering to 1/4 miles in dense fog with ceilings at 200 feet. Plotting the helicopter's flight track on weather radar images indicates the helicopter encountered an area of light precipitation as it approached the accident site. The pilot was instrument rated and met the currency requirements for IFR flight, and the helicopter was equipped and certified for IFR flight. The pilot had been employed as an air ambulance helicopter pilot in the accident area for the past 16 years. He had 7,990 hours helicopter flight time with 4,192 hours in the accident make and model, 2,396 hours night flight time and 672 hours instrument flight time. Examination of the helicopter's maintenance records revealed no evidence of any uncorrected maintenance discrepancies. Damage observed on the recovered wreckage was consistent with the helicopter impacting the water in an uncontrolled descent. Examination of the recovered wreckage revealed no evidence suggesting mechanical malfunction or failure. However, the majority of the helicopter, including most of the flight control system and all flight instruments and avionics, was not recovered, precluding determination of the reasons for the loss of control.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be:
Loss of control for an undetermined reason during maneuvering flight, which resulted in an in-flight collision with water.

Findings

Occurrence #1: LOSS OF CONTROL - IN FLIGHT

Phase of Operation: MANEUVERING

Findings

1. (C) REASON FOR OCCURRENCE UNDETERMINED

Occurrence #2: IN FLIGHT COLLISION WITH TERRAIN/WATER

Phase of Operation: DESCENT - UNCONTROLLED

Findings

2. TERRAIN CONDITION - WATER

Factual Information

HISTORY OF FLIGHT

On September 29, 2005, about 2113 Pacific daylight time (PDT), an Agusta A109A II helicopter, N655GS, impacted the ocean waters of Puget Sound near Edmonds, Washington. The air ambulance helicopter was destroyed and the three occupants, an airline transport pilot and two flight nurses, were killed. The helicopter was operated by CJ Systems Aviation Group of West Mifflin, Pennsylvania, under contract to Airlift Northwest of Seattle, Washington. The helicopter was on a 14 CFR Part 91 positioning flight when the accident occurred. The flight departed from Harborview Medical Center in Seattle about 2104 with an intended destination of Arlington Municipal Airport (AWO) in Arlington, Washington. Earlier in the evening, the helicopter had flown a patient from a hospital in Arlington to Harborview. The accident occurred as the helicopter was returning to its base at AWO. Visual meteorological conditions prevailed for the helicopter's departure from Harborview, and instrument meteorological conditions prevailed at the accident site. A company visual flight rules (VFR) flight plan was filed.

Radar data provided by the Federal Aviation Administration (FAA) shows the helicopter departing Harborview, proceeding northbound over the water, following the coastline at an altitude of approximately 800 feet msl. As the radar track reaches an area near Edmonds called Brown's Bay, the helicopter enters a left turn towards the west, away from the shoreline. The last radar return was recorded at 2112:33 and places the helicopter at N 47:51.250 and W 122:21.520.

No eye witnesses to the accident were located. A number of ear witnesses heard a low flying helicopter and then an "explosion" or loud boom. About 2122, the communications center for Northwest Airlift attempted to contact the helicopter by radio as there was another mission for the helicopter. The communications center received no response from the helicopter.

A search was started, and the United States Coast Guard found debris floating in the water at N 47:51.190 and W 122:21.010 about 0130 on September 30, 2005. The body of one flight nurse was found with the floating debris.

On October 7 to 10, 2005, an extensive search and recovery effort was conducted by the United States Navy employing specialized undersea search and recovery equipment. A debris field was located on the ocean floor at a depth of about 525 feet, centered at N 47:51.018 and W 122:21.901, about 2,100 feet southwest of the last radar return. During this effort, the pilot's body was located and recovered.

PERSONNEL INFORMATION

The pilot held an airline transport pilot certificate with a helicopter rating and commercial privileges in single engine land airplanes with an instrument airplane rating. His most recent first class medical certificate was issued on March 26, 2005, with the limitations: "Holder must wear corrective lenses for distant vision and have available for near and intermediate.

Not valid for any class after March 31, 2006."

The pilot had been employed as an air ambulance helicopter pilot in the Puget Sound area since 1988. He was hired by CJ Systems on May 1, 2000, when CJ Systems became the helicopter vendor to Airlift Northwest. He was previously employed in the same capacity, as an Agusta A109A pilot, by Hospital Air Transport, Inc., Airlift Northwest's previous helicopter vendor. He completed his most recent twelve month 14 CFR Part 135 checks (135.293(a), 135.293(b), and 135.299) on November 11, 2004. His most recent six month 14 CFR Part 135 instrument flight rules (IFR) proficiency check (135.297) was completed on May 20, 2005.

According to information provided by CJ Systems, the pilot had accumulated a total flight time of 8,190 hours of which 7,990 hours were in helicopters with 4,192 hours in the Agusta A109A. He had accumulated 2,396 hours of night flight time and 672 hours of instrument flight time. In the previous 90 and 30 days, he had accumulated 38 and 12 hours, respectively.

On January 20, 2002, the pilot was involved in an accident that occurred during a repositioning flight in an Agusta A109A II near Baring, Washington. According to the NTSB Factual Report on the accident, on the previous day, the pilot had aborted a flight due to adverse weather conditions (dark night, snow, rain and fog), and the helicopter was parked over night in an open field. The following morning, the pilot boarded the helicopter with the intention of returning it to the AWO base. Shortly after takeoff, there was a sequential loss of power in both engines, and the helicopter landed hard following an autorotation. The helicopter sustained substantial damage, and the pilot, the sole occupant, sustained serious injuries. Both engines were test run following the accident with no indication of any mechanical problems. The NTSB determined that the probable cause of the accident was "the sequential non-mechanical total loss of power in both engines 1 and 2 for undetermined reasons and the pilot's failure to maintain adequate rotor RPM to prevent a hard landing. Contributing factors were the tripped "RPM WARN" circuit breaker which disabled the engine failure and low rotor warning lights and aural warnings." Following the accident, the pilot was out of work recovering from his injuries for approximately 20 months. He returned to work in September 2003.

The duty schedule for the pilots at the AWO base was 7 days on, working 12 hour shifts, followed by 7 days off. The pilots worked day shift for 7 days, had 7 days off, and then worked night shift for 7 days. The day shift was from 6:15 am to 6:15 pm, and the night shift was from 6:15 pm to 6:15 am. The accident flight occurred on the second day of the pilot's week working the night shift. On the first day of his work week, he made one 0.6-hour flight with 3 landings. The accident flight was his first flight on the second day of his work week.

AIRCRAFT INFORMATION

The 1984 model Agusta A109A II helicopter, S/N 7299, was powered by two 420-horsepower Rolls Royce Allison 250-C20B turbo-shaft engines, S/N CAE 834357 (#1) and CAE 834829 (#2), driving a four bladed main rotor system and a two bladed tail rotor. The helicopter was equipped and certified for IFR flight. Installed equipment included a Garmin GNS-430 GPS/Com/Nav and a factory installed autopilot.

The helicopter was being maintained by the operator in accordance with an FAA Approved Inspection Program. Examination of the helicopter's maintenance records revealed that it received a 150 hour/12 month airframe inspection on September 7, 2005, at an airframe total time of 3,740.1 hours. On this date, both engines received 150 hour inspections with engine #1 at a total time of 8,832.6 and engine #2 at a total time of 6,178.0 hours. The helicopter's most recent inspection, a 25 hour/30 day inspection, was done on September 19, 2005, at an airframe total time of 3,766.5 hours, engine #1 total time of 8,859.0 hours, and engine #2 total time of 6,204.4 hours. When the accident occurred, the helicopter had been flown approximately 29 hours since this inspection.

Review of the daily maintenance report sheets for the helicopter from August 1, 2005, to the date of the accident revealed no listings of any uncorrected maintenance discrepancies.

According to the day shift pilot who flew the helicopter for 1.5 hours on the day of the accident and 1.5 hours on the day before the accident, he experienced no anomalies with the aircraft. The dayshift pilot mentioned that the autopilot was slow to react to some turbulence he encountered, so he turned it off and hand flew the helicopter. He stated that this was "typical, nothing unusual" for the autopilot.

METEOROLOGICAL INFORMATION

The National Weather Service (NWS) Surface Analysis Chart for 2000 PDT depicted a low pressure system to the north of the accident site over British Columbia, with a cold front extending southwestward from the low over northwestern Washington and into the Pacific Ocean. The accident site was located immediately ahead of the cold front. The NWS Weather Depiction Chart for 2000 PDT depicted an area of IFR conditions over western Washington and Oregon. The accident site was located in the area of IFR conditions. The NWS Radar Summary Chart for 2118 PDT depicted a large area of light-to-moderate intensity rain showers over western Washington moving eastward at 51 knots.

The closest weather reporting facility to the accident site was at Snohomish County Airport - Paine Field (PAE), Everett, Washington, located 5 miles northeast of the accident site at an elevation of 606 feet msl. The airport had an automated surface observation system (ASOS) and was augmented by certified NWS weather observers. The following conditions were reported:

PAE weather observation at 1853 PDT, wind from 190 degrees at 15 knots gusting to 25 knots, visibility unrestricted at 10 miles, ceiling overcast at 800 feet, temperature 16 degrees Celsius (C), dew point temperature 14 degrees C, altimeter 29.81 inches of Mercury (Hg).

PAE weather observation at 1953 PDT, wind from 190 degrees at 16 knots, visibility unrestricted at 10 miles, ceiling overcast at 800 feet, temperature 16 degrees C, dew point 14 degrees C, altimeter 29.81 inches of Hg.

PAE weather observation at 2053 PDT, wind from 200 degrees at 9 knots, visibility 6 miles in mist, ceiling overcast at 600 feet, temperature 16 degrees C, dew point 14 degrees C, altimeter 29.82 inches of Hg. Remarks, in part: ceiling 500 variable 900 feet.

PAE special weather observation at 2117 PDT, wind from 220 degrees at 6 knots, visibility 4 miles in light rain and mist, ceiling broken at 400 feet, overcast at 1,100 feet, temperature 15 degrees C, dew point 14 degrees C, altimeter 29.82 inches of Hg. Remarks, in part: ceiling 200 variable 800 feet.

PAE special weather observation at 2124 PDT, automated, wind from 240 degrees at 5 knots, visibility 1 3/4 miles in light rain and mist, ceiling broken at 200 feet, overcast at 800 feet, temperature and dew point 14 degrees C, altimeter 29.81 inches of Hg.

PAE special weather observation at 2132 PDT, automated, wind from 250 degrees at 5 knots, visibility 1/4 mile in dense fog, ceiling broken at 200 feet, overcast at 600 feet, temperature and dew point 14 degrees C, altimeter 29.82 inches of Hg.

PAE weather observation at 2153 PDT, automated, wind from 310 degrees at 4 knots, visibility 1/2 mile in fog, vertical visibility 100 feet, temperature and dew point 14 degrees C, altimeter 29.82 inches of Hg.

The next closest station to the accident site was at Boeing Field - King County International Airport (KBFI), Seattle, Washington, located approximately 18 miles south-southeast of the accident site at an elevation of 21 feet. The airport had an ASOS system installed and reported the following conditions surrounding the time of the accident:

BFI weather observation at 2053 PDT, wind from 180 degrees at 12 knots gusting to 17 knots, visibility 7 miles in light rain and mist, scattered clouds at 800 feet, ceiling overcast at 1,500 feet, temperature 17 degrees C, dew point 16 degrees C, altimeter 29.80 inches of Hg.

BFI special weather observation at 2118 PDT, wind from 190 degrees at 7 knots, visibility 10 miles in light rain and mist, ceiling overcast at 1,300 feet, temperature 17 degrees C, dew point 16 degrees C, altimeter 29.80 inches of Hg.

KBFI weather observation at 2153 PDT, wind from 200 degrees at 6 knots, visibility 6 miles in light rain and mist, ceiling overcast at 1,100 feet, temperature 17 degrees C, dew point 16 degrees C, altimeter 29.80 inches of Hg.

The ferry M.V. Puyallup was operating between Edmonds and Kingston, and was located at the Edmonds terminal approximately 4 miles south-southwest of the accident site when the accident occurred. The ship has limited weather reporting capabilities and reported the following conditions surrounding the time of the accident:

Weather at 2100 PDT, wind from 224 degrees at 2 knots, temperature 16 degrees C, relative humidity 92.0 percent, sea level pressure 1007-mb.

Weather at 2110 PDT, wind from 213 degrees at 10 knots, temperature 16 degrees C, relative humidity 91.5 percent, sea level pressure 1007-mb.

Weather at 2120 PDT, wind from 318 degrees at 6 knots, temperature 16 degrees C, relative

humidity 89.5 percent, sea level pressure 1007-mb.

The closest upper air sounding was from the NWS Quillayute, Washington, site, located approximately 90 miles west of the accident site. The 1700 PDT sounding indicated a moist low-level environment with a relative humidity greater than 75 percent from the surface to 19,500 feet. The wind profile indicated westerly winds immediately above the surface with little or no variation with height. At approximately 1,000 feet msl the wind was observed from 260 degrees at 32 knots.

GOES-10 infrared satellite imagery from 2100 PDT depicted an extensive area of low to mid-level stratiform clouds over Washington and over the accident site. No defined areas of cumulonimbus clouds or thunderstorms were observed surrounding the period of the accident over Washington. The radiative cloud top temperature over the accident site was 267.50 degrees Kelvin, which corresponds to cloud tops near 16,000 feet.

The closest weather radar was the NWS Seattle WSR-88D site, located approximately 22 miles north-northwest of the accident site. The radar produces three basic types of products: reflectivity, radial velocity, and spectral width. The radial velocity and spectral width products did not indicate any strong wind changes or wind shears along the flight track or in the immediate vicinity of the accident site. Base reflectivity images at 2109 and 2115 PDT depict an east-to-west band of echoes with reflectivities in the range of 20 to 35 dBZ north of PAE, with a second small band of echoes extending southwestward of PAE with reflectivities from 15 to 25 dBZ. Plotting the helicopter's flight track on the images depicts the flight track intercepting the second band of echoes. According to the NWS video integrator and processor (VIP)/dBZ conversion table, reflectivities of 15 to 25 dBZ correspond to rainfall rates of 0.01 to 0.04 in/hr, which is considered to be light precipitation.

Several of the witnesses provided information regarding the weather conditions. They reported the following:

Witness 1 observed helicopter at 2115. It disappeared over Brown's Point.

Witness 2 observed helicopter fly-by between 2105-2115. Very foggy over the water, could not see lights on Whidbey Island. Started to rain pretty hard while they were out.

Witness 3 heard helicopter between 2110-2115, but could not see it, and heard impact. No significant wind, just started to rain, and it was misty.

Witness 4 observed helicopter fly-by 2110-2115, and heard impact. Called 911. Heavy drizzle and foggy in spots. Precipitation was between drizzle and rain.

Witness 5 heard helicopter fly-by and then impact sound. Low thick clouds which were illuminated by the streetlights. Could see out to the water, but not to Whidbey Island. No rain. Low cloud conditions improved later when search began.

Witness 6 heard helicopter fly-by and then impact sound. Called 911. Just started raining really hard. Foggy. Could not see lights on Whidbey Island, dense fog.

Witness 7 heard helicopter fly-by at 2115 and then impact. At 2120 went outside and wind was picking up from the west with sporadic rainfall.

Witness 8 heard impact just after 2100. Location on a hill approximately 1/2 mile from water, visibility up and down from 3/4 to 1 mile, in mist and rain. Unable to see lights on Whidbey Island.

Witness 9 heard helicopter and then heard impact. Misty or a light sprinkle of rain.

WRECKAGE AND IMPACT INFORMATION

The largest piece of floating debris recovered was a section of the cabin floor. Numerous smaller pieces were also recovered, including the outboard sections of three of the four main rotor blades.

The debris field mapped by the United States Navy measured approximately 160 feet wide by 70 feet long and was oriented on a northeast-southwest axis with the largest pieces of wreckage located to the northeast. Wreckage recovered from the debris field included the #1 engine, the main rotor pylon, the tail boom with tail rotor attached, and a section of the cabin roof. When the main rotor pylon was pulled from the water, the entire blue main rotor blade and the blade root sections of the yellow, red and white rotor blades were found attached to the rotor head. The blue blade and two of the blade root sections were removed from the rotor head onboard the Navy vessel to facilitate storage and transportation of the wreckage.

The recovered floating debris and the wreckage recovered by the Navy were examined on October 12, 2005, by the NTSB investigator-in-charge and representatives of the FAA, CJ Systems Aviation Group, Airlift Northwest, Agusta Aerospace Corporation, and Rolls-Royce Corporation. The cabin roof section recovered extended from station 3525 to 5460. Both oil coolers and their respective blowers were intact on the upper surface of this section. The main rotor pylon section recovered included the main transmission, swashplate, and rotor head. The combining gearbox was not recovered. The main rotor head was intact with the exception of the red main rotor grip on which the pitch horn was fractured and the damper was missing. One of the three main rotor servo actuator assemblies remained attached to the stationary swashplate horns; this actuator was retained for further examination.

The main rotor blades were laid out on the ground in their proper order. The three separated outboard blade sections were matched to their inboard sections. All four main rotor blade tip caps were separated. With the exception of a 2 foot section from the middle of the yellow blade, the full length of each blade was present. The blue blade, which was recovered intact, was bent down at the root. The white blade was separated about 4 feet outboard of the hub and was bent down at the root. The yellow blade was separated about 5 feet outboard from the hub and was bent down slightly at the root. The red blade was separated about 3 feet outboard from the hub and did not appear to be bent.

The tailboom separated from the fuselage at station 5460. Continuity of the tail rotor drive system was established from the tail rotor to separation of the tail rotor drive shaft at the

tailboom separation point. The rubber collars on each tail rotor drive shaft bearing were pushed back about 1/4 inch. The tail rotor assembly was intact and spun freely when rotated by hand.

The #1 engine had sustained considerable impact damage and salt-water contamination. The compressor discharge tubes were crushed, and the combustion case had severe impact damage. The engine compressor and turbine cases were intact. The engine gearbox magnesium housing was somewhat intact but had deteriorated due to salt-water immersion. The N1 and N2 drive trains would not rotate. The compressor was visually examined and numerous blades were found bent in the opposite direction of rotation. The inlet guide vanes also had considerable impact damage. Both engine magnetic indicating plugs were found void of material and unremarkable. Both drive shafts, one from the engine to the aircraft combining gearbox and one from the engine to the oil cooler blower, displayed rotational overload failures.

The #2 engine was not recovered. The #2 engine oil cooler blower drive shaft was recovered and found to display rotational overload fractures.

MEDICAL AND PATHOLOGICAL INFORMATION

Autopsies of the pilot and one flight nurse were conducted by the Snohomish County Medical Examiner's Office. The cause of death for both individuals was attributed to blunt force injuries. The body of the second flight nurse was not recovered.

Toxicology testing on the pilot conducted by the FAA's Toxicology and Accident Research Laboratory was negative for drugs. Tests for carbon monoxide and cyanide were not performed. Ethanol was detected in liver tissue; however, the toxicology report noted that the sample was decomposing.

TESTS AND RESEARCH

The recovered servo actuator assembly, P/N 109-0110-42-5, S/N 1419, was disassembled and examined at the DRJ Technology facilities in Corona, CA on January 19, 2006, under the supervision of an NTSB investigator. The unit was damaged during impact, which prevented it from being functionally tested. The end of the piston had fractured almost completely through. The feedback linkages had been damaged by impact, preventing movement of the piston. Visual inspection showed all of the safety wire to be intact with the lead seals also in place. All internal seals were observed to be in place with no signs of abnormal wear. The examination of the servo revealed no evidence of any pre-impact anomalies that would have prevented normal operation of the servo.

ADDITIONAL INFORMATION

The recovered wreckage was released to a representative of the owner on February 2, 2006.

Pilot Information

Certificate:	Airline transport	Age:	58, Male
Airplane Rating(s):	Single-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	Helicopter	Restraint Used:	
Instrument Rating(s):	Airplane; Helicopter	Second Pilot Present:	No
Instructor Rating(s):	None	Toxicology Performed:	Yes
Medical Certification:	Class 1 With waivers/limitations	Last FAA Medical Exam:	March 1, 2005
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	May 1, 2005
Flight Time:	8190 hours (Total, all aircraft), 4192 hours (Total, this make and model), 7340 hours (Pilot In Command, all aircraft), 38 hours (Last 90 days, all aircraft), 12 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Agusta	Registration:	N655GS
Model/Series:	A109A II	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	7299
Landing Gear Type:	Retractable - Tricycle	Seats:	5
Date/Type of Last Inspection:	September 1, 2005 Annual	Certified Max Gross Wt.:	5730 lbs
Time Since Last Inspection:	54 Hrs	Engines:	2 Turbo shaft
Airframe Total Time:	3794 Hrs at time of accident	Engine Manufacturer:	Rolls-Royce
ELT:	Installed, not activated	Engine Model/Series:	250-C20B
Registered Owner:		Rated Power:	420 Horsepower
Operator:		Operating Certificate(s) Held:	On-demand air taxi (135)
Operator Does Business As:		Operator Designator Code:	BAQA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	Condition of Light:	Night/dark
Observation Facility, Elevation:	PAE,606 ft msl	Distance from Accident Site:	5 Nautical Miles
Observation Time:	21:17 Local	Direction from Accident Site:	45°
Lowest Cloud Condition:		Visibility	4 miles
Lowest Ceiling:	Broken / 400 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	6 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	220°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29.81 inches Hg	Temperature/Dew Point:	15° C / 14° C
Precipitation and Obscuration:	N/A - None - Mist		
Departure Point:	Seattle, WA (WA53)	Type of Flight Plan Filed:	Company VFR
Destination:	Arlington, WA (AWO)	Type of Clearance:	None
Departure Time:	21:04 Local	Type of Airspace:	

Wreckage and Impact Information

Crew Injuries:	3 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:		Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	3 Fatal	Latitude, Longitude:	47.850555,-122.375

Administrative Information

Investigator In Charge (IIC):	Struhsaker, Georgia
Additional Participating Persons:	William D Jackson; FAA FSDO; Seattle, WA James B Blakley; CJ Systems Aviation Group; West Mifflin, PA Deborah Sampson; Airlift Northwest; Seattle, WA Gregg Schilling; Agusta Aerospace Corporation; Philadelphia, PA Robert E Ketchum; Rolls-Royce Corporation; Indianapolis, IN Carolyn L Deforge; NTSB; Washington, DC
Original Publish Date:	April 25, 2007
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=62576

The National Transportation Safety Board (NTSB), established in 1967, is an independent federal agency mandated by Congress through the Independent Safety Board Act of 1974 to investigate transportation accidents, determine the probable causes of the accidents, issue safety recommendations, study transportation safety issues, and evaluate the safety effectiveness of government agencies involved in transportation. The NTSB makes public its actions and decisions through accident reports, safety studies, special investigation reports, safety recommendations, and statistical reviews.

The Independent Safety Board Act, as codified at 49 U.S.C. Section 1154(b), precludes the admission into evidence or use of any part of an NTSB report related to an incident or accident in a civil action for damages resulting from a matter mentioned in the report. A factual report that may be admissible under 49 U.S.C. § 1154(b) is available [here](#).