



National Transportation Safety Board Aviation Accident Final Report

Location:	Wray, Colorado	Accident Number:	CEN09FA135
Date & Time:	January 15, 2009, 07:00 Local	Registration:	N840NK
Aircraft:	Gulfstream Aerospace Corp Commander	Aircraft Damage:	Destroyed
Defining Event:	Loss of control in flight	Injuries:	3 Fatal
Flight Conducted Under:	Part 91: General aviation - Positioning		

Analysis

The airplane was "cleared for the approach" and approximately eight minutes later was observed emerging from the clouds, flying from west to east. Witnesses reported that the nose of the airplane dropped and the airplane subsequently impacted terrain in a near vertical attitude. Impact forces and a post impact fire destroyed the airplane. Examination of the airplane's systems revealed no anomalies. Weather at the time of the accident was depicted as overcast with three to six miles visibility. An icing probability chart depicted the probability for icing during the airplane's descent as 76 percent. AIRMETS for moderate icing and instrument meteorological conditions had been issued for the airplane's route of flight. Another airplane in the vicinity reported light to moderate mixed icing. It could not be confirmed what information the pilot had obtained in a weather briefing, as a briefing was not obtained through a recorded source. A weight and balance calculation revealed that the accident airplane was 1,000 pounds over gross weight at the time of departure and 560 pounds over gross weight at the time of the accident. It was estimated that the center of gravity was at or just forward of design limitations.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The pilot's failure to maintain aircraft control during the approach resulting in an aerodynamic stall and subsequent impact with terrain. Contributing to the accident was the pilot's improper preflight planning and conditions conducive for structural icing.

Findings

Personnel issues	Weight/balance calculations - Flight crew
Personnel issues	Aircraft control - Flight crew
Aircraft	(general) - Not attained/maintained
Environmental issues	Conducive to structural icing - Effect on equipment

Factual Information

HISTORY OF FLIGHT

On January 15, 2009, approximately 0700 mountain standard time, a Gulfstream Aerospace Corporation Commander Division 690 C, N840NK, owned by A David Miller Trustee, and operated by J-W Operating Company was destroyed when it impacted terrain four miles north, northeast of Wray Municipal Airport (K2V5), Wray, Colorado. A post impact fire ensued. Instrument meteorological conditions prevailed at the time of the accident. The flight was being conducted under the provisions of Title 14 Code of Federal Regulation Part 91 on an instrument flight rules (IFR) flight plan. The airline transport certificated pilot, commercial certificated second pilot, and commercial certificated passenger were fatally injured. The cross-country flight departed Centennial Airport (KAPA), Denver, Colorado, approximately 0630 and was en route to K2V5.

According to J-W Operating Company, the airline transport certificated pilot, an occasional contract pilot for J-W Operating Company, was on board the airplane for positioning purposes; after the flight from KAPA to K2V5 to Addison Airport, Dallas, Texas, (KADS), he intended to ferry another company airplane back to KAPA later that day. The accident airplane was based in KAPA and the flight was scheduled to pick up one additional passenger in Wray before continuing on to KADS.

According to records provided by the Federal Aviation Administration (FAA), N840NK was in radio communications with Denver Air Route Traffic Control Center (ZDV) prior to the accident. Approximately 0634 the controller queried N840NK about which heading would take him direct to Wray. N840NK responded that a heading of 065 degrees would take them direct to ETUDE, the initial approach fix for the Global Positioning System (GPS) approach to Runway 17. The controller then cleared N840NK to fly direct to ETUDE. At 0646:06 the controller cleared the flight to "descend at pilot's discretion maintain six thousand." N840NK acknowledged this transmission. At 0646:28 the controller provided the special automated surface observation report for Akron, Colorado (52 miles west of K2V5). This weather included a visibility of four miles, mist, overcast at one hundred feet, and a temperature and dew point of minus twelve. At 0647:02 the controller provided the special weather report for Imperial, Kansas (42 miles northeast of K2V5). This weather included a visibility of three miles, light snow, and overcast at 1,600 feet. N840NK acknowledged the relay of both weather reports.

At 0652:44 the controller cleared N840NK to "cross initial [approach fix] at or above six thousand, cleared [for the] approach to the Wray airport." Radar data, provided by ZDV in National Track Analysis Program (NTAP) format, depicted the accident flight from the time of departure from KAPA. The airplane initially climbed to 11,000 feet mean sea level (msl). At 0647:43 the airplane initiated a descent. The last radar information was recorded at 0649:14, at an altitude of 9,900 feet, 32 miles west of K2V5.

Multiple witnesses reported seeing the accident airplane flying from the southwest to the northeast. The airplane was low to the ground and flew across highway 385. Shortly thereafter, the airplane pitched down to a near vertical attitude and began to rotate. The airplane

impacted the ground nose first and a fire erupted.

The Yuma County Sheriff's Department took witness statements from nine individuals; six of whom observed the accident airplane prior to impact. The National Transportation Safety Board (Safety Board) Investigator in Charge (IIC) interviewed three witnesses. These witnesses were located west of the impact location. Several of the witnesses heard the accident airplane just to the northwest of their location. The airplane was not seen until it emerged from the clouds. The witnesses observed the airplane "flying low" and several stated that the "nose dropped" or that the airplane descended "nose first" towards the ground.

PERSONNEL INFORMATION

The pilot (seated in the left seat), age 33, held an airline transport pilot certificate with airplane single engine land, and multiengine land ratings last issued on September 26, 2008. He was issued a first class airman medical certificate on March 31, 2008. The certificate contained no limitations.

The pilot's flight logbook was not located. According to his last application for airman certification, dated September 26, 2008, he reported a total time of 2,454 hours; 220 of which was logged in instrument conditions. According to his employer (International Jet Aviation Services), he had logged approximately 2,728 hours.

The second pilot (seated in the right seat), age 53, held a commercial pilot certificate with airplane single engine land, multiengine land, and instrument ratings last issued on December 3, 1996. He was issued a second class airman medical certificate on March 11, 2008. The certificate contained the limitation pilot "must wear lenses for near vision while flying."

According to the second pilot's logbook, he had logged no less than 10,211.3 hours total time; 1,149 hours were logged in multiengine "turbo propeller" aircraft, 615.9 hours in actual instrument conditions, and 91.4 hours in simulated instrument conditions. J-W Operating estimated that he had flown 9 hours during the week preceding the accident.

According to J-W Operating Company, the commercial pilot lived in Wray and was very familiar with the airport, approaches, and geography.

AIRCRAFT INFORMATION

The accident airplane, a Gulfstream Aerospace Corporation Commander Division 690 C (serial number 11734) was manufactured in 1984, and subsequently refurbished earning the trade name of Grand Renaissance Commander. It was registered with the Federal Aviation Administration on a standard airworthiness certificate for normal operations. Two Allied Signal (Garrett) TPE-331-10T-513K turbine engines (as indicated by the engine data plates) limited at 717.5 horsepower at 1,591 rpm powered the airplane. The engines were equipped with three-bladed Dowty Rotol propellers.

The airplane was registered to A David Miller Trustee, operated by J-W Operating Company, and was maintained under a periodic inspection program in accordance with the Twin

Commander maintenance manual. A review of the maintenance records indicated that a 150 hour periodic inspection was completed on November 7, 2008, at an airframe total time of 7,189.9 hours. The airplane had flown approximately 25 hours between the last inspection and the accident and had an estimated total airframe time of 7,215 total hours.

METEOROLOGICAL INFORMATION

Aviation area forecasts were issued for Colorado by the Aviation Weather Center in Kansas City, Missouri, at 0445 the day of the accident. The forecast for the northern plains at the time of the accident predicted overcast sky conditions at 6,000 feet with cloud tops at 8,000 feet, and visibility 3 to 5 statute miles in mist.

Airman's Meteorological Information (AIRMET) Zulu for icing and freezing levels was issued the day of the accident at 0145. Moderate ice between the freezing level and 14,000 feet was forecast. The freezing level was anticipated between the surface and 6,000 feet msl. AIRMET Sierra for IFR was issued at 0145. Ceilings below 1,000 feet and visibility below 3 miles in precipitation and mist was forecast. The accident airplane's route of flight was included in both AIRMET Zulu and Sierra.

The closest official aviation weather observation station was Imperial Municipal Airport (KIML) Imperial, Nebraska, located 38 nautical miles (nm) northeast of the accident site. The elevation of the weather observation station was 3,275 feet msl. The routine aviation weather report (METAR) for KIML, issued at 0653, reported, winds, 140 degrees at seven knots, visibility, six miles in haze; sky condition, overcast 1,600 feet; temperature minus 12 degrees Celsius (C); dew point, minus 14 degrees C; altimeter, 30.49 inches.

A Nebraska Department of Roads weather observation station, located in Haigler, Nebraska, (13.5 miles east of Wray, Colorado) recorded weather at 0655 as temperature 12.4 degrees Fahrenheit (F), dew point 9.8 degrees F, and winds east-southeast at 4 miles per hour with gusts to 6 miles per hour.

Level II Doppler weather radar for Goodland, Kansas, scanned the accident area at 0647:10, 0656:55, and 0606:41. No weather radar echoes were recorded in the accident area around the time of the accident. Geostationary Operation Environment Satellite 11 recorded infrared images at 0645:13 and 0700:14. The brightness values recorded over Wray were 154 and 157 respectively. These brightness values correspond to radiative temperatures of minus 20 degrees and minus 21 degrees C. These values and temperatures correspond to cloud tops of 16,000 and 17,000 feet msl respectively.

An icing probability image was generated for the accident route of flight using McIDAS-V. The icing probability near Wray, Colorado, ranged from 30 to 76 percent, depending on altitude. Vertical icing probability over Wray increased from zero probability at the surface to 60 percent at an altitude of 4,900 feet msl and 76 percent at an altitude of 5,900 feet msl. The probability then decreased to 30 percent at an altitude of 8,200 feet msl, and towards zero as the altitude increased.

Neither pilot had obtained a weather briefing through the FAA Flight Service Station or by

utilizing a Direct User Access Terminal System (DUATS). According to fellow employees, the second pilot commonly utilized "Flightplan.com" to file flight plans and obtain weather information.

In a written statement received by a King Air pilot, he departed KAPA at 0711 en route to Burlington, Colorado (KITR), (52 miles south of K2V5) and cruised at 17,000 feet. He stated that initially the cloud tops were just below 17,000 feet and then "gradually rose slightly above 17,000." He stated that they "started picking up ice and the de-ice boots did not cleanly shed the ice." During the descent they were "in clear air between layers from... 15,000 feet down to about 12,000 feet." Clouds were continuous from 12,000 feet to "about 600 feet above ground level" (agl). He stated that they encountered "at least light icing throughout the descent and approach and frequently cycled the boots."

The King Air pilot departed KITR at 0748 en route to Scott City, Kansas (KTQK), (129 miles southeast of K2V5) and cruised at 11,000 feet. He stated that they continued to encounter at least light icing conditions and broke out of the clouds at 1,500 feet agl. He stated that after landing he noted a "significant accumulation of ice on the airplane."

The King Air pilot provided photographs of the icing accumulated on the flight to KTQK. The photographs depicted mixed icing varying in thickness from less than an inch to over an inch in some areas. In a follow-up telephone conversation with the pilot, he characterized the ice that day as "sticky" and hard to get rid of.

AIRPORT INFORMATION

Wray Municipal Airport was a public, uncontrolled airport located in class Echo airspace 2 miles northwest of Wray, Colorado, at 40 degrees, 6 minutes, 1.1 seconds north latitude, and 102 degrees, 14 minutes, 27.4 seconds west longitude, at a surveyed elevation of 3,667 feet. The airport had two available instrument approaches at the time of the accident; area navigation (RNAV)/GPS approach for runway 17, and an RNAV/GPS approach for runway 35.

The RNAV/GPS approach for runway 17 has an initial approach fix, for arrivals from the west, at ETUDE (located 10.2 miles northwest of the accident location). The approach directs aircraft from west to east at ETUDE at an altitude of 5,500 feet and a bearing of 077 degrees to the COLOD fix. At COLOD, the approach course turned to the south on a bearing of 172 degrees and an altitude of 5,000 feet. The final approach fix, TECOB (located 1,885 feet south of the accident location), was 4.4 miles from K2V5.

According to the airport manager, no one was "manning" the airport radio or Unicom the morning of the accident and no radio communications were witnessed or recorded with the accident airplane.

WRECKAGE AND IMPACT INFORMATION

The accident site was located in an open dormant hay field. The accident site was at an elevation of 3,716 feet msl and the airplane impacted on a magnetic heading of 025 degrees. The airplane impacted in a near vertical, nose down attitude.

The wreckage consisted of the fuselage, empennage, both the left and right wings, and the left and right engine assemblies. A strong odor of jet fuel was present at the crash site. An oblong burn pattern 58 feet wide and 67 feet long extended from the crash site eastward.

The right wing exhibited aft accordion crushing along the leading edge. The outboard 2/3 of the wing exhibited exposure to fire and was charred and melted. The right aileron remained attached at the outboard hinge, and was bent and wrinkled. The right engine was partially buried in the ground (approximately 2.5 feet) with 14 inches of one propeller blade exposed. The wing inboard of the engine nacelle was destroyed by fire. The right flap was partially consumed by fire.

The forward fuselage, to include the forward cabin and instrument panel was destroyed by impact forces and post impact fire.

The inboard 2/3 portion of the left wing was destroyed by fire. The leading edge of the wing displayed aft accordion crushing along the entire length. The left aileron was separated at the outboard hinge, was wrinkled, and charred. The left engine was partially buried in the ground (approximately 3 feet) with a portion of one propeller blade exposed. The left flap was attached and exhibited exposure to heat and fire.

Control continuity was established on the right wing from the aileron bell crank to the wing root with two breaks located in follow-up cables. Control continuity was established from the left aileron bell crank to the wing root. A broom straw separation, consistent with overload, was observed on the follow-up cable.

The empennage was upright and exhibited twisting and "scorpion tail" characteristics. The right horizontal stabilizer exhibited exposure to heat and fire. The left horizontal stabilizer exhibited accordion crushing along the leading edge and a circular impression in the leading edge outboard of the root. Elevator and rudder cables were continuous.

The right main gear was collapsed, broken, and located under the right engine nacelle. The left main landing gear was broken and located under the left horizontal stabilizer. The right and left main landing gear actuators were extended. The flaps appeared to be fully extended.

The co-pilot altimeter was located 28 feet east of the wreckage. The Kollsman window displayed 30.31, the altimeter needles showed approximately 2,650 feet.

MEDICAL AND PATHOLOGICAL INFORMATION

Autopsies were performed on the pilot and second pilot at the Jefferson County Coroner's Office on January 17, 2009, as requested by the Yuma County Coroner's office. The autopsy revealed the cause of death for both pilots as "massive bodily injury secondary to blunt force trauma."

During the autopsy, specimens were collected from both pilots for toxicological testing to be performed by the FAA's Civil Aerospace Medical Institute, Oklahoma City, Oklahoma (CAMI

Reference Number 200900018002 and 200900018002). Tests for carbon monoxide, cyanide, ethanol, and requested drugs were all negative.

TESTS AND RESEARCH

The wreckage was removed to a hangar located in Greeley, Colorado, and the examination continued on January 18th through January 20th.

Honeywell examined the left engine under the observation and direction of the Safety Board. The propeller blades were arbitrarily labeled A, B, and C for identification purposes. Blade "A" was straight, exhibited 90 degree and 45-degree chord wise scratching, and exposure to heat. Blade "B" displayed 45-degree chord wise scratching and was bent outboard of the hub at an approximate 15- to 20-degree angle. Blade "C" was bent at an approximate 45-degree angle from the $\frac{1}{4}$ span outward and displayed lengthwise scratching. The left engine exhibited exposure to heat and the engine shroud was bent and crushed around the engine. Oil was present in the left engine and fuel in the fuel heater and oil cooler line in the oil tank. The compressor impeller blades were bent opposite the direction of rotation and metal spray was observed on the third-stage turbine stator vanes and rotor blades.

The right engine propeller blades were arbitrarily labeled A, B, and C for identification purposes. Blade "A" was bent "U" shaped at mid span, exhibited chord wise scratching, and exposure to fire at the tip. Blade "B" exhibited 45-degree chordwise scratching and the tip exposure to fire. Blade "C" was twisted, bent, exhibited lengthwise scratching, and the tip was missing. The right engine exhibited exposure to heat and the engine shroud was bent and crushed around the engine. Oil was present in the right engine and fuel in the fuel heater and oil cooler line in the oil tank. The compressor impeller blades were bent opposite the direction of rotation and metal spray was observed on the third-stage turbine stator vanes and rotor blades.

The left horizontal stabilizer displayed aft crushing along the leading edge. A circular indentation was observed in the leading edge measuring 25 inches in diameter and approximately 10 inches outboard of the root. The de-icing boot was partially melted and torn. The left elevator was bent, wrinkled, and exposed to heat and fire. The right horizontal stabilizer leading edge exhibited multiple dents, exposure to heat and fire, and the de-icing boot was melted. The right elevator exhibited exposure to heat and fire, but was otherwise unremarkable.

The rudder trim and elevator trim control cables were continuous from their respective trim tabs forward to the main cabin wreckage and were cut for wreckage removal. The right elevator trim tab was 2.5 inches down as compared to the trailing edge of the elevator; the left trim tab was 2 inches down. The rudder trim tab was in the neutral position.

The rudder remaining after the accident consisted of the lower 46 inches of the control surface. The upper portion was charred, melted, and partially consumed by fire. The front portion of the remaining forty inches of vertical stabilizer exhibited accordion crushing, and the upper portion was charred and consumed by fire.

Located within the cargo bay were two 28-volt VDC Start-Pac air portable power sources, a flight bag that contained personal effects, and the airplane maintenance records.

On May 11, 2009, the anti-ice valve and bleed air valve were tested at The Service Center, Oklahoma City, Oklahoma, under the auspices of an airworthiness inspector with the Oklahoma City FAA Flight Standards District Office. Coil actuation of the anti-ice valve was verified. Due to impact and fire damage, the valve could not be flow checked. Air pressure was applied to the bleed air valve and the unit functioned and regulated air pressure at 19 pounds per square inch.

ADDITIONAL INFORMATION

According to an employee at Denver Jet Center, Centennial Airport, Englewood, Colorado, he refueled the accident airplane, prior to departure. He received a request to "top off" the airplane and subsequently fueled the airplane with 349 gallons of fuel.

Weight and Balance

According to the most recent weight and balance record for the accident airplane, dated July 15, 2005, the empty weight was 7,323.7 pounds. The combined weight of the two front seat pilots, as determined by weights reported at the last medical certification, was 551. The rear seat passenger weight was 210 pounds. Approximately 77 pounds of baggage were located in the rear baggage compartment. At the time of departure, the fuel tanks were both full, resulting in a total fuel weight of 3,176 pounds. The ramp weight and center of gravity of the airplane at the time of departure were calculated to be 11,337 pounds and 211.6 inches respectively. Airplane weight and center of gravity at the time of the accident was estimated to be 10,887 pounds and 211.5 inches respectively.

According to the Pilot Operating Handbook for the Gulfstream Commander Model 690 C, the maximum ramp weight is 10,375 pounds and the maximum takeoff weight is 10,325 pounds. The most forward and most aft center of gravity limitations at maximum takeoff weight were 210.51 and 218.67 inches aft of datum, respectively.

CFR 91.103 "Preflight Actions... Each pilot in command shall, before beginning a flight, become familiar with all available information concerning that flight. This information must include -... (b) For any flight, runway lengths at airports of intended use, and the following takeoff and landing distance information: (1) For civil aircraft for which an approved Airplane or Rotorcraft Flight Manual containing takeoff and landing distance data is required, the takeoff and landing distance data contained therein; and (2) For civil aircraft other than those specified in paragraph (b)(1) of this section, other reliable information appropriate to the aircraft, relating to aircraft performance under expected values of airport elevation and runway slope, aircraft gross weight, and wind and temperature."

History of Flight

Approach-IFR initial approach	Structural icing
Approach-IFR initial approach	Loss of control in flight (Defining event)

Pilot Information

Certificate:	Commercial; Flight instructor	Age:	53, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Right
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	Toxicology Performed:	Yes
Medical Certification:	Class 2 With waivers/limitations	Last FAA Medical Exam:	March 1, 2008
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	March 2, 2007
Flight Time:	(Estimated) 10221 hours (Total, all aircraft), 100 hours (Last 90 days, all aircraft), 16 hours (Last 30 days, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Pilot Information

Certificate:	Airline transport; Flight instructor	Age:	33, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine; Instrument airplane	Toxicology Performed:	Yes
Medical Certification:	Class 1 Without waivers/limitations	Last FAA Medical Exam:	March 1, 2008
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	December 17, 2008
Flight Time:	2728 hours (Total, all aircraft), 1 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Gulfstream Aerospace Corp	Registration:	N840NK
Model/Series:	Commander 690 C	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Normal	Serial Number:	11734
Landing Gear Type:	Retractable - Tricycle	Seats:	8
Date/Type of Last Inspection:	November 7, 2008 AAIP	Certified Max Gross Wt.:	10325 lbs
Time Since Last Inspection:	25 Hrs	Engines:	2 Turbo prop
Airframe Total Time:	7215 Hrs at time of accident	Engine Manufacturer:	Honeywell
ELT:	Installed, activated, did not aid in locating accident	Engine Model/Series:	TPE-331
Registered Owner:		Rated Power:	820 Horsepower
Operator:		Operating Certificate(s) Held:	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Instrument (IMC)	Condition of Light:	Day
Observation Facility, Elevation:	KIML, 3275 ft msl	Distance from Accident Site:	38 Nautical Miles
Observation Time:	06:53 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Thin Overcast / 1600 ft AGL	Visibility	6 miles
Lowest Ceiling:	Overcast / 1600 ft AGL	Visibility (RVR):	
Wind Speed/Gusts:	7 knots /	Turbulence Type Forecast/Actual:	/
Wind Direction:	140°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	30 inches Hg	Temperature/Dew Point:	-12°C / -14°C
Precipitation and Obscuration:			
Departure Point:	Denver, CO (KAPA)	Type of Flight Plan Filed:	IFR
Destination:	Wray, CO (2V5)	Type of Clearance:	IFR
Departure Time:	06:30 Local	Type of Airspace:	

Airport Information

Airport:	Wray Municipal Airport 2V5	Runway Surface Type:	
Airport Elevation:	3667 ft msl	Runway Surface Condition:	
Runway Used:		IFR Approach:	Global positioning system
Runway Length/Width:		VFR Approach/Landing:	None

Wreckage and Impact Information

Crew Injuries:	2 Fatal	Aircraft Damage:	Destroyed
Passenger Injuries:	1 Fatal	Aircraft Fire:	On-ground
Ground Injuries:	N/A	Aircraft Explosion:	On-ground
Total Injuries:	3 Fatal	Latitude, Longitude:	40.179164, -102.241386

Administrative Information

Investigator In Charge (IIC):	Rodi, Jennifer
Additional Participating Persons:	Stephanie Wells; FAA Flight Standards District Office; Denver, CO Geoffrey Pence; Twin Commander Aircraft LLC; Arlington, WA David Studtmann; Honeywell Aerospace; Phoenix, AZ Peter Jumper; J-W Operating Company; Dallas, TX Barry Lane; J-W Operating Company; Dallas, TX
Original Publish Date:	November 9, 2009
Note:	The NTSB traveled to the scene of this accident.
Investigation Docket:	https://data.nts.gov/Docket?ProjectID=73242

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](#).