



# National Transportation Safety Board Aviation Incident Final Report

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<b>Location:</b>	Rapid City, SD	<b>Incident Number:</b>	DCA16IA200
<b>Date &amp; Time:</b>	07/07/2016, 2042 MDT	<b>Registration:</b>	N333NW
<b>Aircraft:</b>	AIRBUS INDUSTRIE A320 211	<b>Aircraft Damage:</b>	None
<b>Defining Event:</b>	Runway incursion veh/AC/person	<b>Injuries:</b>	129 None
<b>Flight Conducted Under:</b>	Part 121: Air Carrier - Scheduled		

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## Analysis

The flight was routine until nearing the Rapid City terminal area. The crew had initially briefed for landing on runway 32, but the wind had shifted and favored runway 14. The crew reported that they had prepared for the runway 14 approach as well, so the change was not a significant factor. Delta chart material did include an advisory regarding the close proximity and alignment of the two airports.

Landing on runway 14 required more flying distance than runway 32, however, at 2030, the crew discussed the need to descend more rapidly. The flight was not altitude restricted by ATC. At 2035, ATC instructed the flight to fly heading of 300 degrees for the downwind leg of the visual approach. At that time the airplane was 9 miles abeam RAP at 12,000 feet. The ATC controllers noted that the airplane was high and fast for the visual approach. Field elevation of RAP was 3,200 feet and with a nominal remaining flying distance of about 15 to 18 miles the airplane was positioned well above the typical 300 feet per mile descent.

At 2036:30 the captain called the airport in sight and called for gear down and flaps one, configuring the airplane for a more expeditious descent. At this point RAP was south-southwest of the airplane, at the 8 o'clock position, while RCA was at the 10 o'clock position, therefore, it is likely the captain was actually looking at RCA.

Shortly afterward, ATC issued a vector for base leg, but the crew requested to extend the downwind due to high altitude, which ATC approved.

At 2039, the crew accepted a turn to base leg as the airplane was descending through 5,800 feet, about 5.5 miles north of RCA, and about 12 miles north of RAP. This was consistent with altitudes on the RNAV14 approach to RAP, but a somewhat steeper than normal angle to RCA.

ATC cleared the flight for "visual approach runway one-four. Use caution for Ellsworth Air Force Base located six miles northwest of Rapid City Regional." FAA order 7110.65 directs controllers to describe the location of a potentially confusing airport in terms of direction/distance from the aircraft. During interviews, the crew stated they misheard the

controller's warning for the typical position advisory given on an instrument approach, and it supported their idea that the correct landing runway was 6 miles away. The FO did query the Captain if he had the right airport in sight, who expressed some uncertainty. Both crewmembers had little to no experience flying into either RAP or RCA, however, they did not verify their position to the desired landing runway using either the automation, or by querying ATC; and switched off the autopilot and Flight Directors removing possible cues as to their position related to RAP

At the time ATC cleared the flight for the visual approach the airplane was positioned on the final approach course of the RNAV14 approach, and at a reasonable altitude for that approach, therefore, there was no immediate indication to ATC that the crew had identified the wrong airport.

Shortly after, the captain increased the descent rate as high as 1,200 feet per minute, resulting in an unstable approach as he was focused on the wrong landing runway. The crew realized the mistake just prior to touchdown, but considered it was safer to complete the landing at that point.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this incident to be:

The flight crew's misidentification of the desired landing runway due to excess altitude requiring an extended downwind, and failure to use all available navigation information.

### Findings

#### Personnel issues

- Identification/recognition - Flight crew (Cause)
- Flight planning/navigation - Flight crew (Factor)
- Lack of action - ATC personnel (Factor)
- Identification/recognition - ATC personnel (Factor)

## Factual Information

### HISTORY OF FLIGHT

On July 7, 2016, at 2042 mountain daylight time (MDT), Delta Air Lines flight 2845, an Airbus A320, N333NW, landed on runway 13 at Ellsworth Air Force Base, Rapid City, South Dakota (RCA). The airplane was not damaged and there were no injuries. The flight was a regularly scheduled passenger flight from the Minneapolis St. Paul International Airport, Minneapolis, Minnesota (MSP) operating under the provisions of 14 Code of Federal Regulations Part 121, with a planned destination of Rapid City Regional Airport (RAP).

The flight crew reported the takeoff, climb, cruise, and initial descent to be routine until nearing the Rapid City area. The captain was the pilot flying and the first officer (FO) was the pilot monitoring for the flight leg.

Prior to arrival into the RAP area, the captain anticipated and briefed the ILS32 approach; however, due to his personal procedure, he also briefed the RNAV/GPS14 approach. Prior to contacting Ellsworth Approach Control, the FO obtained the latest weather for RAP, which included wind from 140 degrees at 4 knots. The approach briefing included the airport information page, the anticipated taxi route to the gate after landing, and the close proximity of RCA to RAP.

At 2029:29, the airplane was descending through flight level 235 (about 23,500 feet above sea level) descending to 17,000 feet, and the flight crew made initial contact with Ellsworth Radar Approach Control (EA). The approach controller acknowledged and cleared the flight to descend to 5,300 feet and to expect a visual approach to runway 14. The crew acknowledged, and discussed the need to descend more rapidly. The captain was demonstrating to the FO a technique on setting up the Flight Management System (FMS) to configure for approach. During this exchange the airplane was approximately 45 nautical miles east of RAP.

At 2034:58, the airplane was abeam RAP and the EA controller instructed the crew to fly heading of 300 degrees for a downwind leg to the visual approach. The EA controller and the RAP tower controller discussed on landline communications that the airplane was high and fast for the visual approach. During the exchange the airplane descended through about 12,000 feet. Field elevation of RAP was 3,200 feet and with a nominal remaining flying distance of about 15 to 18 miles the airplane was positioned well above the typical 300 feet per mile descent.

At 2035:18 the captain noted that the airplane's speed was too high, and then noted that his technique on the FMS was not going to work the way he intended, and switched back to open descent. At 2036:30 the captain said "there's the airport," and called for gear down and flaps one. At this point the airplane was east of RCA, and RAP was south-southwest of the airplane.

At 2037:15 the EA controller instructed the flight to turn to a heading of 230 degrees, for the base leg of the visual approach. At this time, the airplane was descending through 9,200 feet and was positioned 9 miles north of RAP. Total flying distance via base leg and final would

have been about 12 miles. Ellsworth AFB was directly abeam the left side of the airplane by about 4 miles.

The FO advised the controller that they were "a little high" and requested an extended downwind leg. The controller approved and asked the pilot to advise when they were ready to turn in. The airplane had turned about 15 degrees left during the previous discussion, and continued to slow. The airplane had travelled about 5 miles in a northwesterly direction, and was descending through 6,600 feet, about 11 miles north of RAP when the controller asked the pilot if he could begin a turn toward the runway. At 2039:12 the pilot advised he could accept a turn and that he had the field in sight. At that time the airplane was 12 miles north of KRAP, and less than 2 miles abeam the extended centerline. KRCA was directly between the airplane's position and KRAP about 6 miles south. The EA controller advised the pilot "cleared visual approach runway one-four. Use caution for Ellsworth Air Force Base located six miles northwest of Rapid City Regional." The FO acknowledged the approach clearance, and said to the captain "you got the right one in sight?" The captain replied "I hope I do."

After turning onto the base leg the captain selected a direct radial to the ZUDIM intersection, the final approach fix for the RAP RNAV GPS 14 approach, and armed the approach. ZUDIM is located 1.2 miles southwest of RCA. The captain reported that the airplane captured the approach about 5 miles from ZUDIM. The FO reported that he observed his navigation display (ND) and the flight was straight on the "correct" navigation line to the runway.

The airplane turned left, passing through and slightly west of the extended centerline for RAP runway 14. From 2039:45 to 2040:45 the airplane's descent rate slowed and was close to level at 4,900 feet. This altitude and position is consistent with the altitudes published on the RNAV 14 approach chart in that area; the specified altitude for crossing ZUDIM waypoint, directly abeam RCA, is 4,900 feet.

During this period, at 2040:10, the pilot asked if he should contact tower, and the EA controller instructed him to switch to the tower frequency. At that time, the airplane was about 5 miles north of RCA, about 11 miles north of RAP and positioned close to the extended centerlines of either runway. The captain switched off the autopilot, and directed the first officer to clear the flight director display. Just after switching to the tower frequency, the airplane began a rapid descent from 4,600 feet, about 3 miles from the RCA runway threshold, to landing at KRCA, with a field elevation of 3,276 msl.

The captain reported that about 500 feet agl he did not observe the PAPI lights; however, he remained "focused on the visual approach." At 2041:25 the captain stated "confirmed stable." The airplane was 1.5 nm from the threshold of KRCA, 8 nm from KRAP. The airplane was descending approximately 1,200 feet per minute, and the captain said "this is the most [expletive] approach I've made in a while."

As they approached the runway, the captain retarded the thrust levers to idle, at which point they realized that they were landing at RCA. According to both crewmembers, the landing runway 13 was "uneventful" and they cleared the runway onto taxiway "D" and notified the RAP air traffic control tower.

At 2042:24, the RAP tower controller notified the EA controller that DAL2845 had landed at RCA instead of RAP. The EA controller contacted RCA tower and began the process of handling the "wrong airport" landing with the tower and airfield operations personnel. On the ATC interphone, the RAP tower controller stated that he was initially watching the airplane on the tower radar display, but at the time of landing was entering traffic count information.

## PERSONNEL INFORMATION

The captain was 60 years old. He held an Airline Transport Pilot (ATP) certificate with type ratings on the Airbus A-320 and A-330, and the Boeing 747 with Second-in-Command privileges. He also held a commercial pilot certificate for instrument helicopter, a flight engineer certificate, and an FAA first-class medical certificate dated April 8, 2016. He had approximately 25,800 hours total time, and 2,980 hours in the A320. He was originally hired with Republic Airways on June 9, 1986, which merged with Northwest Airlines in October of 1986, and subsequently merged with Delta in January of 2010. At the time of the incident, he was based in Salt Lake City, Utah.

A review of FAA records found no prior accident, incident, or enforcement actions.

According to Delta Air Lines' records the captain's previous experience flying into RAP was December 4, 2014, and a subsequent departure from RAP on December 6, 2014. No other records of previous experience with the airport were located.

The First Officer was 51 years old and resided in Utah. He had an ATP certificate with a type rating on the Airbus A-320. He also had a FAA first-class medical certificate dated January 4, 2016. His date of hire with Delta Air Lines was May, 2000. At the time of the incident, he was based at Salt Lake City. He had logged approximately 7,600 hours total time, with 2,324 hours in the A320. He had never flown to RAP or RCA before as a pilot.

A review of FAA records found no prior accident, incident, or enforcement actions.

## AIRCRAFT INFORMATION

N333NW, manufacturer construction number 0329, was an Airbus 320-211, manufactured in 1992. The airplane had a maximum ramp weight of 170,635 pounds, and had a total passenger seating capacity of 160, and contained 4 flight crew seats and 5 cabin crew seats. Recorded data and airline records indicated no relevant mechanical, systems, or maintenance issues with the airplane.

### Electronic Flight Instrument System (EFIS)

The incident airplane was equipped with an electronic flight instrumentation system. The system included 6 flat panel displays, of which 2 were considered the Primary Flight Displays (PFD) and 2 were considered Navigation Displays (ND), which provided flight and navigation information in a digital format. The crew reported they operated the ND in Rose NAV mode which displays a full compass rose oriented to the aircraft heading, a depiction of the aircraft position with reference to the flight plan inserted into the FMS, and additional information associated with the flight plan. The destination runway and the runway identifier are depicted

in white. In some cases, parallel or crossing runways are also depicted. According to Delta documentation the ROSE NAV mode "is particularly useful for maintaining orientation when being vectored near an airport prior to approach..."

## METEOROLOGICAL INFORMATION

The Rapid City Regional Airport weather observation at 20:58 indicated clear skies, 10 miles visibility and light winds from 170 degrees.

Sunset was at 20:38, approximately 4 minutes prior to the event, the end of civil twilight was 21:13. According to NTSB Meteorological staff, the sun would have been at an azimuth of about 304 degrees true and about 1 degree below the horizon at the time of the incident.

## AERODROME INFORMATION

### Rapid City Regional Airport (RAP)

Rapid City Regional Airport was located 8 miles southeast of Rapid City, South Dakota, had a field elevation of 3,204 feet msl, and was located at a latitude/longitude of N44°02.7'/W103°03.4'. The airport was serviced by an FAA Air Traffic Control Tower that was in operation from 0600 to 2200 local time. The tower was in operation at the time of the incident. Radar services to DAL2845 were provided by Ellsworth Approach Control, located at the Ellsworth Air Force Base. RAP runway 14/32 was 8,701 feet long and 150 feet wide, the surface was concrete and grooved. Runway 14 was equipped with high intensity runway lights (HIRL) and runway end identifier lights (REIL). Runways 14 and 32 were equipped with a 4-light precision approach path indicator (PAPI) on the left side of the runway with a 3.00-degree glide path angle.

Runway 14 was serviced by an RNAV and a VOR approach.

### Ellsworth Air Force Base (RCA)

Ellsworth Air Force Base was located 5 miles northeast of Rapid City, South Dakota, had a field elevation of 3,276 feet msl, and was located at a latitude/longitude of N44°08.7'/W103°06.2'. The airport was serviced by a US Air Force Air Traffic Control Tower that was in operation on the day of the incident from 0800 to 2100 local time. The airport was also equipped with a military airport beacon, which operated from sunset to sunrise. RCA had a single runway designated as 13/31. Runway 13/31 was 13,497 feet long and 300 feet wide, the surface was concrete and grooved. Both runways had a 4-light PAPI located on the left side of the runway with a 3.00-degree glide path angle, HIRL, Approach Light System with Sequenced Flashing Lights (ALSF-1), and REIL.

Each runway was served by an ILS approach.

### Delta Air Lines' Operational Specific 10-7 and 10-7a Pages

Delta Air Lines provided Delta pilots with operational specific information on airports that are served by Delta Air Lines. The information is provided as a 10-7 page, also known at Delta as

the "green page," within the Jeppesen Chart structure. The information provided by the 10-7 charts includes operation frequency, gate number information at the specific airport, airport specific procedures for departures and arrivals, general information, and Special Notes. The 10-7 page for KRAP provided within the special notes section the following information: "Ellsworth AFB lies northwest of RAP on final approach for runway 14. These airports have similar runway alignment and can be mistaken for one another."

## FLIGHT RECORDERS

The cockpit voice recorder (CVR), an Allied Signal 980-6022-001, serial number 0777 was a solid-state CVR that recorded 2 hours of digital cockpit audio. The recorder was received with no heat or structural damage and the audio information was extracted from the recorder normally, without difficulty. The quality of the audio was characterized as good to excellent. A CVR group was convened and created a transcript. Timing on the transcript was established by correlating the CVR events to common events on the flight data recorder (FDR).

The FDR, a Honeywell SSFDR, Model 980-4700 serial number 4425 records a minimum of 25 hours of airplane flight information in a digital format using solid-state flash memory as the recording medium. The recorder was received in good condition and the data were extracted normally from the recorder. Correlation of the FDR data to the event local time, mountain daylight time (MDT), was established by using the FDR recorded GMT hour, minute and second time parameters and then applying an additional -6 hour offset to change GMT to local MDT time.

## MEDICAL AND PATHOLOGICAL INFORMATION

Both pilots completed company drug screening tests on July 8, 2016. Results of these tests for both pilots were negative. The captain told NTSB investigators that he was wearing his glasses, as required by his medical certificate.

## ADDITIONAL INFORMATION

FAA Order 7110.65 specified phraseology to warn pilots of similar airports is contained in paragraph 7-4-3g: *In those instances where airports are located in close proximity, also provide the location of the airport that may cause the confusion. EXAMPLE– "Cessna Five Six November, Cleveland Burke Lakefront Airport is at 12 o'clock, 5 miles. Cleveland Hopkins Airport is at 1 o'clock 12 miles. Report Cleveland Hopkins in sight."*

## Aviation Safety Reporting System (ASRS) Reports

A review of wrong airport landing data provided by ASRS revealed that in the previous 20 years approximately 600 wrong airport landings or near landings had been voluntarily reported. Of those, 6 occurred while attempting to land at RAP and resulted in a landing or landing attempt at RCA. Four of those reported were conducted by general aviation aircraft, which consisted of piston and turbojet aircraft, and two of those events were done during commercial air carrier passenger operations.

## Previous "Wrong Airport" Incidents Involving RAP and RCA

According to information provided by Ellsworth, similar incidents of pilot confusion between RAP and RCA have occurred in the past, ending in either an unauthorized landing at RCA or a low approach to RCA before the mistake was identified and corrected by ATC or the pilot. For example, on August 17, 2015, a Hawker business jet inbound to the area from the west was vectored northwest of RCA for a visual approach to RAP. The crew misidentified RCA as their destination and completed an unauthorized landing. On June 19, 2004, a Northwest Airlines Airbus A319 also completed an unauthorized landing at RCA after the crew confused RCA with RAP. Ellsworth reported that pilot confusion between RAP and RCA continues to be fairly common, although the problem is typically detected and corrected by ATC or the crew before landing.

## NTSB Wrong Airport Landing Investigations

### DCA14IA037

On January 12, 2014, about 1808 CST (0008Z), Southwest Airlines flight 4013, a Boeing 737-7H4, N272WN, mistakenly landed at M. Graham Clark Downtown Airport (PLK), Branson, Missouri, which was 6 miles north of the intended destination, Branson Airport (BBG), Branson, Missouri. The flight had been cleared to land on runway 144 at BBG, which was 7,140 feet long; however, landed on runway 12 at KPLK, which was 3,738 feet long. Night visual meteorological conditions prevailed at the time. The flight crew visually acquired the airport and completed the flight via visual reference. However, the flight crew failed to comply with the company guidance to monitor all available navigational information and subsequently indicated that they had misidentified PLK as BBG.

### DCA13IA016

On November 21, 2013, about 2120 local time, a Boeing 747-400LCF (Dreamlifter) landed at the wrong airport in Wichita, Kansas, in night VMC conditions. The airplane was being operated as a cargo flight from John F. Kennedy International Airport (JFK), Jamaica, New York, to McConnell Air Force Base (IAB), Wichita, Kansas. Instead, the flight crew mistakenly landed the airplane at Colonel James Jabara Airport (AAO), Wichita, Kansas. The flight crew indicated that during their approach to the airport, they saw runway lights that they misidentified as IAB. The flight was cleared for the RNAV GPS 19L approach, and the flight crew saw AAO but misidentified it as IAB. The flight crew then completed the flight by visual reference to the AAO runway. Once on the ground at AAO, the flight crew was uncertain of their location until confirmed by the IAB tower controller. The AAO runway was 6,101 feet long, whereas IAB runways were 12,000 feet long.

## Previous NTSB Recommendations and Guidance

In April, 2014, the NTSB issued a Safety Alert for landings at the wrong airport. In the Safety Alert, pilots were guided to use the following tools to prevent landings at the wrong airport:

*Adhere to standard operating procedures (SOPs), verify the airplane's position relative to the destination airport, and use available cockpit instrumentation to verify that you are landing at the correct airport.*



*Maintain extra vigilance when identifying the destination airport at night and when landing at an airport with others in close proximity.*

*Be familiar with and include in your approach briefing the destination airport's layout and relationship to other ground features; available lighting such as visual glideslope indicators, approach light systems, and runway lighting; and instrument approaches.*

*Use the most precise navigational aids available in conjunction with a visual approach when verifying the destination airport.*

*Confirm that you have correctly identified the destination airport before reporting the airport or runway is in sight.*

#### Safety Recommendation A-15-010

ATC radar data processing systems typically include minimum safe altitude warning (MSAW) functions that compare the aircraft's expected trajectory with its observed trajectory and alert controllers if the aircraft is in danger of collision with terrain or obstructions. This is accomplished by comparing the aircraft's altitude against a digital terrain model until it reaches the vicinity of the destination airport, when the processing changes to compare the aircraft's observed trajectory against expected trajectories for landing aircraft.

In "wrong airport" landings, MSAW systems should detect that the aircraft is unexpectedly descending to the ground away from the destination airport and generate a minimum safe altitude alert. Review of Ellsworth radar data showed that as DAL2845 approached the RCA area, the system applied MSAW rules for RCA arrivals instead of RAP arrivals. Consequently, no alert was generated in this incident. This behavior has been identified in other "wrong airport" landings. On May 4, 2015, the NTSB issued safety recommendation A-15-10 to the FAA, asking that FAA, "Modify the minimum safe altitude warning (MSAW) software to apply the MSAW parameters for the flight plan destination airport to touchdown, rather than automatically reassigning the flight to another airport based on an observed (and possibly incorrect) trajectory." The recommendation is currently classified "Open – Acceptable Alternate Response."

## History of Flight

Landing

Runway incursion veh/AC/person (Defining event)

## Pilot Information

<b>Certificate:</b>	Airline Transport; Flight Instructor; Commercial; Flight Engineer	<b>Age:</b>	60, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Left
<b>Other Aircraft Rating(s):</b>	Helicopter	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane; Helicopter	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Airplane Multi-engine; Airplane Single-engine; Instrument Airplane	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 1 With Waivers/Limitations	<b>Last FAA Medical Exam:</b>	04/08/2016
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>	25800 hours (Total, all aircraft), 3778 hours (Total, this make and model)		

## Co-Pilot Information

<b>Certificate:</b>	Airline Transport; Flight Engineer; Private	<b>Age:</b>	51, Male
<b>Airplane Rating(s):</b>	Multi-engine Land; Single-engine Land	<b>Seat Occupied:</b>	Right
<b>Other Aircraft Rating(s):</b>	Glider	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	Airplane	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	
<b>Medical Certification:</b>	Class 1 With Waivers/Limitations	<b>Last FAA Medical Exam:</b>	01/04/2016
<b>Occupational Pilot:</b>	Yes	<b>Last Flight Review or Equivalent:</b>	02/01/2016
<b>Flight Time:</b>	(Estimated) 7600 hours (Total, all aircraft), 2300 hours (Total, this make and model)		

## Aircraft and Owner/Operator Information

<b>Aircraft Manufacturer:</b>	AIRBUS INDUSTRIE	<b>Registration:</b>	N333NW
<b>Model/Series:</b>	A320 211 231	<b>Aircraft Category:</b>	Airplane
<b>Year of Manufacture:</b>	1992	<b>Amateur Built:</b>	No
<b>Airworthiness Certificate:</b>	Transport	<b>Serial Number:</b>	329
<b>Landing Gear Type:</b>	Retractable - Tricycle	<b>Seats:</b>	
<b>Date/Type of Last Inspection:</b>		<b>Certified Max Gross Wt.:</b>	169756 lbs
<b>Time Since Last Inspection:</b>		<b>Engines:</b>	2 Turbo Fan
<b>Airframe Total Time:</b>		<b>Engine Manufacturer:</b>	CFM INTL.
<b>ELT:</b>		<b>Engine Model/Series:</b>	CFM56 SERIES
<b>Registered Owner:</b>	DELTA AIR LINES INC	<b>Rated Power:</b>	hp
<b>Operator:</b>	DELTA AIR LINES INC	<b>Operating Certificate(s) Held:</b>	Flag carrier (121)
<b>Operator Does Business As:</b>	Delta Airlines	<b>Operator Designator Code:</b>	D02M

## Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Dusk
Observation Facility, Elevation:	KRCA, 3278 ft msl	Observation Time:	2052 CDT
Distance from Accident Site:	0 Nautical Miles	Direction from Accident Site:	62°
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	23° C / 10° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	4 knots, 170°	Visibility (RVR):	
Altimeter Setting:	29.96 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Minneapolis, MN (KMSP)	Type of Flight Plan Filed:	IFR
Destination:	Rapid City, SD (KRAP)	Type of Clearance:	IFR
Departure Time:	1700 CDT	Type of Airspace:	Class D

## Airport Information

Airport:	Ellsworth AFB (KRCA)	Runway Surface Type:	Concrete
Airport Elevation:	3276 ft	Runway Surface Condition:	Dry
Runway Used:	13	IFR Approach:	Visual
Runway Length/Width:	13497 ft / 300 ft	VFR Approach/Landing:	None

## Wreckage and Impact Information

Crew Injuries:	6 None	Aircraft Damage:	None
Passenger Injuries:	123 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	129 None	Latitude, Longitude:	44.147500, -103.106667 (est)

## Administrative Information

Investigator In Charge (IIC):	William R English	Adopted Date:	05/26/2017
Additional Participating Persons:			
Publish Date:	05/26/2017		
Note:	The NTSB did not travel to the scene of this incident.		
Investigation Docket:	<a href="http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=93567">http://dms.nts.gov/pubdms/search/dockList.cfm?mKey=93567</a>		

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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.