NATIONAL TRANSPORTATION SAFETY BOARD
Office of Aviation Safety
Washington, D.C. 20594

August 30, 2001

Group Chairman's Factual Report

OPERATIONS / HUMAN PERFORMANCE

DCA01MA034

A. ACCIDENT

Operator: Avjet Corporation
Location: Aspen, Colorado
Date: March 29, 2001
Time: 1902 mountain standard time[1]
Airplane: Gulfstream III, N303GA, S/N #303.

B. OPERATIONS / HUMAN PERFORMANCE GROUP

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[1] All times are mountain standard time (MST) based on a 24-hour clock, unless otherwise noted. Actual time of accident is approximate, determined by the Cockpit Voice Recorder (CVR) and Air Traffic Control (ATC) transcripts.

C. SUMMARY

On March 29, 2001, at 1902, a Gulfstream III, registration number N303GA, operated by Avjet Corporation, collided with terrain about 0.4 miles northwest of the Aspen-Pitkin County Airport (KASE), Aspen, Colorado. The airplane was destroyed and the flight crew of two, one fight attendant and all 15 passengers were fatally injured during impact with sloping terrain. The accident site was about 100 feet above the airport elevation of 7815 feet MSL. The flight had arrived under Instrument Flight Rules (IFR) and had reported the airport in sight. The flight was operated as an IFR flight under FAR Part 135. The weather at 1853 was, wind 250 degrees at 3 knots, visibility 10 miles, light snow, few clouds at 1,500 feet, ceiling 2,500 feet broken and 5,000 feet broken. Approximately 10 minutes after the accident the visibility decreased to 1¾ miles in light snow.

D. DETAILS OF THE INVESTIGATION

The Operations/Human Factors group convened at 1100 on March 30, 2001, at the Aspen-Pitkin County Airport in Aspen, Colorado, to begin the field investigation of the accident. The accident site and the wreckage of the airplane were examined by two of the operations group members the following day. The group conducted interviews with Avjet's director of operations, four employees of Aspen Base Operations (ABO) who were on duty the night of the accident, the airport rescue and firefighting (ARFF) chief and one eyewitness.

On April 1, 2001, the Operations/Human Factors group reconvened at Avjet headquarters in Burbank, California. Interviews were conducted with the director of training, chief pilot, general manager, the FAA principal operations inspector (POI) assigned to Avjet's certificate, three Avjet line pilots, two checkairmen, five charter coordinators, the accident flight crew's previous employers, two pilot acquaintances of the accident first officer and three pilots who made approaches at KASE prior to the accident.

The group chairman requested data, records, manuals and other pertinent data from Avjet, Gulfstream and the FAA.

The field phase of the accident investigation concluded on April 5, 2001.

1.0 HISTORY OF FLIGHT

The trip was scheduled to depart without passengers at 1412 pacific standard time (PST) from Burbank-Glendale-Pasadena Airport (KBUR), Burbank, California, to Los Angeles International Airport (KLAX), Los Angeles, California. The itinerary was for fifteen passengers to board the flight in KLAX for a 1530 PST departure for KASE. After arrival at KASE and deplaning the passengers, the flight crew was scheduled to ferry the airplane back to KBUR.

The airplane had been on the Avjet ramp in KBUR since March 26, 2001, with 4,000 pounds of fuel aboard[2]. On March 29, 2001, the airplane was fueled with 9,100 pounds of additional fuel[3].

Both crewmembers reported for the flight at Avjet operations in KBUR before noon on the day of the accident. The captain checked the weather on the computer in operations and discussed it with an on duty Avjet charter department scheduler. Another Avjet captain said he observed the accident first officer perform what appeared to be a routine airplane preflight inspection on the ramp in KBUR.

The enroute portion of the positioning fight to KLAX took 10 minutes and the airplane landed at 1450 PST with 10,700 pounds of fuel[4]. The airplane was fueled with an additional 1,750 pounds of fuel[5]. The captain had several conversations with the charter department regarding the status of the passengers' arrival and the current forecast weather for the arrival time in KASE. The captain also had a conversation with another Avjet captain at KLAX regarding landing in KASE at night. The accident captain was informed that there were no restrictions on landing at night in KASE and it was at the captain's discretion. A suggestion was made to the accident captain to call the company and discuss the matter with the charter department scheduler.

The airplane departed KLAX and reported a takeoff time of 1611 PST to Avjet operations. Since the flight was planned for one hour and thirty-five minutes, the estimated time of arrival (ETA) for landing in KASE at 1846 MST.

When the flight crew checked in with the Aspen approach controller, they informed him that they had received automatic terminal information service (ATIS) information HOTEL. Information HOTEL, the 1753 local observation, reported scattered clouds at 2,000 feet with a ceiling of 5,500 broken, 9,000 broken, wind from 030 degrees at four knots, visibility 10 miles, temperature two degrees centigrade (C), dew point minus three degrees C and altimeter 29.86.

Note: The following times, altitudes and positions were derived from ATC transcripts and ground tracks relative to the airport surveillance radar antenna[6].

At 1853:14, approach control instructed N303GA to turn to a heading of 140 degrees and intercept the final approach course at 16,000 feet mean sea level (MSL). At 1856:08, when the airplane was five miles from the Red Table (DBL) very high frequency omni-directional range (VOR), approach control cleared the flight for the VOR DME C approach. The flight was instructed to cross DBL at or above 14,000 feet. The pilot of N303GA acknowledged.

At 1856:44, the approach controller made a blanket broadcast that information INDIA

[2] See attachment 3.
[3] See attachment 4.
[4] See attachment 5. (Recovered at the accident site.)
[5] See attachment 6.
[6] See ATC Group Chairman's Factual Report and the Performance Group Chairman's Factual Report

was current and remarked that the visibility to the north was 2 miles. At the same time, the tower controller made the same announcement on the local control frequency. Information INDIA, the 1853 local observation, reported wind from 250 degrees at three knots, visibility 10 miles, light snow, few clouds at 1,500 feet with a ceiling of 2,500 broken, 5,500 broken, temperature one degree C, dew point minus three C, altimeter 29.89.

At 1857:49, the tower controller informed N303GA that they were number two following a Challenger on a two mile final. The flight was then cleared to land on runway 15 with a reported wind of 240 degrees at five knots. The pilot of N303GA acknowledged.

At 1858:08, Challenger N527JA, the aircraft on the approach in front of the accident airplane, executed a missed approach. ATC radar data indicated that N527JA executed the missed approach as it passed 11 distance measuring equipment (DME) south of DBL at an indicated altitude of 9,700 feet.

At 1859:33, the accident flight passed ALLIX at an indicated altitude of 12,100 feet.

At 1900:28, the pilot of N303GA asked the tower if the runway lights were all the way up and he was told that they were on high.

At 1900:48, the airplane passed about 9.3 DME south of DBL at an indicated altitude of 9,700 feet. The tower controller asked if they had the runway in sight. The pilot of N303GA replied that they had the field in sight.

At 1901:02, N303GA passed about 10 DME south of DBL at an indicated altitude of 9,200 feet.

At 1901:45, the tower controller reported that the airplane became visible through snow showers to the north of the field in the vicinity of Shale Bluffs. The tower controller stated that the airplane was in a steep left bank. At 1901:57, N303GA impacted terrain west of the runway 15 extended centerline at an elevation of about 100 feet above the airport elevation of 7,815 feet MSL.

2.0 WEIGHT AND BALANCE

The following information was obtained from the Avjet Corporation director of operations:

Basic Operating Weight	39,973	lbs.
Passenger Weight	2,775	lbs.
Baggage Weight	450	lbs.
Zero Fuel Weight	43,198	lbs.
Maximum Zero Fuel Weight Allowed*	44,000	lbs.
Fuel	12,375	lbs.
Ramp Weight	56,375	lbs.
Maximum Ramp Weight Allowed*	70,300	lbs.
Taxi Fuel Burn	500	lbs.

Actual Takeoff Weight	55,875	lbs.
Maximum Takeoff Weight Allowed*	69,700	lbs.
Estimated Fuel Burn to KASE**	6,942	lbs.
Estimated Landing Weight**	50,033	lbs.
Maximum Landing Weight Allowed*	58,500	lbs.

***Manufacturer's Airplane Flight Manual Limitations.

****Based on FL 330, the actual enroute flight altitude of N303GA.

According to computations provided by the Gulfstream Corporation, the takeoff center of gravity (CG) was 40.2 per cent of the mean aerodynamic chord (MAC). The allowable CG range for takeoff was 36.6-43.11.

3.0 FLIGHT CREW INFORMATION

3.1 Toxicology Report

Postmortem toxicology testing of specimens from the captain and first officer produced negative results[7].

3.2 Captain Robert Frisbie

Date of birth: [redacted], 1956
Date of hire with Avjet: October 16, 2000
FAA Certificate: Airline Transport Pilot

At the time of the accident, Captain Frisbie held a First Class medical certificate dated, October 16, 2000. That certificate indicated, "The holder shall possess glasses that correct for near vision."

A review of FAA records found no accident or enforcement action.

A review of additional records provided[8] by the FAA found the following information pertaining to Captain Frisbie:

- 01/20/99 While landing a G-1159 at Chino, California, Captain Frisbie went off the end of the runway and 150 feet into the paved clearway.[9]
- 11/01/00 Successfully completed a pilot-in command proficiency checkride in the GIII airplane.
- 12/08/00 Successfully completed a GIII simulator proficiency checkride.

[7] See attachment 19
[8] The FAA did not provide all of the information that was requested.
[9] An area beyond the runway under the control of airport authorities within which terrain of fixed obstacles may not extend above specified limits.

A search of the National Driver Registry database found no record of suspensions or revocations.

Total flight time:	9,900 hours
Total Pilot-in-Command (PIC) time:	7,900 hours
Total GIII flight time	1,475 hours
Total Avjet GIII time:	175 hours
Total Avjet GIII PIC time:	175 hours
Total flying time last 24 hours:	2 hours
Total flying time last 30 days:	21 hours
Total flying time last 90 days:	87 hours

Note: Flight times are based on Avjet employment records.

Initial Type Rating - GIII	01/04/90
Most recent recurrent ground training prior to the accident:	11/09/00
Most recent proficiency check prior to the accident:	12/08/00

3.3 First Officer Peter Kowalczyk

Date of birth: [redacted] 1962
Date of hire with Avjet: November 7, 2000
FAA Certificate: Airline Transport Pilot

At the time of the accident, First Officer Kowalczyk held a First Class medical certificate dated December 8, 2000. There were no limitations noted on his medical certificate.

A review of FAA records found no accident or enforcement action.

A review of additional records provided[10] by the FAA found the following information pertaining to First Officer Kowalczyk:

- 06/02/93 Failed first checkride for issuance of an Instrument Rating in the areas of ATC and navigation systems. Passed second checkride on 06/03/93.
- 06/27/94 Failed first checkride for issuance of a Flight Instructor Rating in the areas of ground reference maneuvers and approach/landing. Passed second checkride on 06/30/94.
- 05/24/98 Failed first checkride for an Airline Transport Pilot Certificate in the area of VOR/circling approaches. Passed second checkride on 06/13/98.
- 03/25/99 During a GIII simulator competency checkride, "additional training to proficiency required in normal take-off, take-off with engine failure and non-precision approaches."

[10] The FAA did not provide all of the information that was requested.

- 12/14/99 Successfully completed a GIII simulator competency checkride.
- 02/09/01 Successfully completed a simulator checkride for an initial type rating in GIII.

A search of the National Driver Registry database found no record of suspensions or revocations.

Total flight time:	5,500 hours
Total Pilot-in-Command (PIC) time:	4,612 hours
Total GII/GIII flight time	913 hours
Total Avjet GIII time:	110 hours
Total flying time last 24 hours:	2 hours
Total flying time last 30 days:	10 hours
Total flying time last 90 days:	49 hours

Note: Flight times are based on Avjet employment records.

Initial Type Rating - GIII	02/09/01
Most recent recurrent ground training prior to the accident:	11/09/00
Most recent proficiency check prior to the accident:	02/09/01

4.0 AERODROME INFORMATION

At the time of the accident, the Aspen-Pitkin County Airport elevation was 7,815 feet MSL. It was served by a combined ATC tower and terminal radar approach control with radar service provided from a position physically located in the tower cab. It was surrounded by mountainous terrain in all quadrants.

The airport had one runway. Runway 15/33 was 7,004 feet long and 100 feet wide. The runway surface was constructed of asphalt with a porous friction course overlay. Runway 15 lighting consisted of medium intensity runway lights (MIRL), runway end identifier lights (REIL) and a precision approach path indicator (PAPI). Runway 15 had a published non-precision approach, VOR/DME-C[11]. There was a notice to airmen (NOTAM) in effect for the VOR/DME-C approach that stated, "Circling not authorized at night."

5.0 FLIGHT AND OPERATIONS PROCEDURES

5.1 The Avjet Operations Manual, Chapter 3, page 3-6[12], stated in part:

"The Pilot in Command is responsible for the safe and efficient conduct of the flight assignment. He will exercise operational control of all flights to which he is assigned and is the final authority for the conduct of the flight."
"The Pilot in Command will ensure that the flight is conducted in complete compliance with all Federal, Local and Company regulations and policies."

[11] See attachment 2 and ATC Group Chairman's Factual Report.
[12] See attachment 7.

5.1a During post accident interviews, it was determined that a curfew for Stage II aircraft was in effect at KASE. Stage II aircraft were those that did not comply with local noise restrictions and ordinances. Since N303GA was categorized as a Stage II aircraft, it should have been on the ground in KASE no later that 1858, which was 30 minutes after official sunset[13].

"Night" was defined in the Federal Aviation Regulations (FARs) as "the time between the end of evening civil twilight and the beginning of morning civil twilight as published in the American Air Almanac, converted to local time." "Evening civil twilight" ended in the evening when the center of the sun's disk was six degrees below the horizon. At most locations in the United States and at KASE, evening civil twilight was 30 minutes after official sunset. The accident occurred at 1902. Evening civil twilight ended at KASE on March 29, 2001, at 1858[14].

The chief pilot stated that Stage II airplane operations were not authorized after dark at ASE and that the captain of N303GA was aware of that fact.

N303GA impacted the terrain at 1902, which was thirty-four minutes after official sunset.

5.2 The Avjet Operations Manual, Chapter 4, pages 4-4 and 4-5[15] described the standard pilot callouts that were required during the descent and approach phases of flight.

6.0 TRAINING PROGRAM

6.1 The Avjet Training Program Manual, Appendix C, pages C-53 thru C-67[16], contained the flight simulator curriculum for recurrent pilot training. According to company records, the accident captain completed that training on December 12, 2000.

6.2 Company records indicated that the accident first officer completed his required GIII annual checkride with his previous employer on December 14, 1999. Avjet accepted that checkride and the first officer's previous training. Company records indicated that he attended two days of initial ground training at Avjet on November 8 and 9, 2000[17] and completed his GIII type rating training on February 9, 2001.

6.3 The Avjet Training Program Manual, Section 2, pages 2-32 and 2-33[18], described the training module for controlled flight into terrain (CFIT) awareness.

[13] See attachment 8.
[14] See attachment 8.
[15] See attachment 9.
[16] See attachment 10.
[17] See attachment 11.
[18] See attachment 12.

6.4 The Avjet Training Program Manual, Appendix C, page C-56[19], included Crew Resource Management (CRM) as one of the ground-training subjects required during recurrent training.

7.0 FLIGHT PLANNING AND AIRPLANE RELEASE

7.1 Sample flight plans[20] from KLAX to KASE were reconstructed at flight level (FL) 330 with the maximum zero fuel weight, known fuel load, historic winds and Rifle/Garfield County Regional Airport (KRIL), Rifle, Colorado, as the alternate.

7.2 The company provided a copy of the accident crew's airplane flight release that included two signatures and was dated 3/29/01[21].

8.0 WEATHER

8.1 The captain received a weather briefing from the Automated Flight Service Station (AFSS), Hawthorne, California, that included the following information:

The KASE forecast for 1300 MST until 1900 MST forecast, winds from 330 degrees at 10 knots; visibility greater than 6 miles; showers in the vicinity; 3,000 feet scattered, ceiling 5,000 feet broken; temporary (TEMPO) conditions winds variable 10 knots gusts to 15 knots; visibility 3 miles; light snow showers; ceiling 2,500 feet broken, 5,000 feet overcast.

8.2 Weather (METAR) observations for KRIL, March 29, 2001:

1753 MST: Winds 320 degrees at 3 knots; visibility 10 miles; ceiling 3,700 feet scattered; temperature 7 degrees C; dew point 2 degrees C; altimeter setting 29.84 inches of Hg.; rain began 1818 MST and ended 1845 MST.

1853 MST: Winds 190 degrees at 5 knots; clear at or below 12,000 feet; visibility 10 miles; temperature 4 degrees C; dew point 2 degrees C; altimeter setting 29.86 inches of Hg.

1953 MST: Winds 270 degrees at 4 knots; visibility 10 miles; clear at or below 12,000 feet; temperature 3 degrees C; dew point 1 degree C; altimeter setting 29.89 inches of Hg.

9.0 FLIGHT OPERATIONS AT KASE

Subsequent to the accident, Avjet's director of flight operations issued a memorandum[22] prohibiting operations at KASE during the hours of sunset to sunrise local time.

10.0 FEDERAL AVIATION ADMINISTRATION (FAA) OVERSIGHT

[19] See attachment 13.
[20] See attachment 14.
[21] See attachment 15.
[22] See attachment 16.

An interview was conducted with Mr. George DeMartini, the FAA principal operations inspector (POI) assigned to the Avjet certificate. He had been Avjet's POI since December 1999, and he worked at the FAA office in Van Nuys, California. He was type rated in the Hawker series airplanes.

Mr. DeMartini stated that he had oversight responsibilities for seven operators that included 85 airplanes, 270 pilots and 19 checkairman. At one time, he said that he had an assistant to help him with his duties but due to reassignments and a hiring freeze, he no longer was assigned an assistant.

At the time of the interview, company records and statements made by the POI indicated that Avjet had not performed the FAA required audits of their training vendors.

Records provided by the FAA indicated that Mr. DeMartini performed the following surveillance inspections as Avjet's POI prior to the date of the accident:

1. Two inspections of operations manuals.
2. One inspection of a training program.
3. One inspection of crewmember/dispatcher training records.
4. One inspection of airplane trip records.
5. One inspection of an airplane checkairman.

Records provided by the FAA indicated that Mr. DeMartini performed the following technical/administrative activities as Avjet's POI prior to the date of the accident:

1. Two evaluations of an initial training program.
2. One airplane proving runs observation.
3. Four initial minimum equipment list (MEL) approvals.
4. Three approvals for revisions to operations specifications.
5. One evaluation of technical documents.
6. Two checkairman approvals.
7. Nine distributions of various technical information. (This information would either be mailed to Avjet or distributed in person.)
8. One pilot airplane line check.

Records provided by the FAA indicated that other FAA operations inspectors performed the following surveillance inspections at Avjet during the 24 months prior to the accident:

1. One inspection of a contract-training vendor used by Avjet.
2. One inspection of crewmember/dispatcher training records.
3. Two inspections of a checkairman in the airplane.

Records provided by the FAA indicated that other FAA operations inspectors performed the following technical/administrative activities at Avjet during the 24 months prior to the accident:

1. One oral examination, one airplane competency checkride and one airplane line check was all administered to one single airman on 4/30/99.
2. One oral examination, one airplane competency checkride and one airplane line check was all administered to one single airman on 6/10/99.
3. One oral examination, one airplane competency checkride and one airplane line check was all administered to one single airman on 1/12/00.
4. One airplane competency checkride and one airplane line check was administered to one single airman on 1/12/00.
5. Two oral examinations, one simulator checkride, one airplane competency checkride and one pilot line check was administered to different airmen on different occasions.
6. Eight certification/review of pilot examiners.
7. One Part 91 MEL initial approval.
8. One evaluation of a training manual revision.
9. One airplane proving run observation.
10. One Part 135 MEL initial approval.

Submitted by:

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Dave Kirchgessner
Air Safety Investigator, Operations
August 30, 2001

LIST OF ATTACHMENTS