NATIONAL TRANSPORTATION SAFETY BOARD

Office of Aviation Safety
Washington, D.C. 20594

November 22, 1995

AIR TRAFFIC CONTROL GROUP CHAIRMAN'S FACTUAL REPORT

A. ACCIDENT

Location: Carrollton, Georgia

Date: August 21, 1995

Time: 1253 Eastern Daylight Time (1653 UTC[1])

Aircraft: Atlantic Southeast (ASE) 7529, Embraer EMB-120, N256AS

NTSB No: DCA-95-MA-054

B. AIR TRAFFIC CONTROL GROUP

Chairman: Sandra L. Rowlett, NTSB
Washington, D.C.

Member: Gary L. Zindars, NATCA
Marietta, Georgia

Member: Ray Leader, FAA
Atlanta, Georgia

Member: Gregory Bland, ALPA
Crescent Springs, Kentucky

Member: Randy Duncan, ASA
Cumming, Georgia

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[1]All times will be expressed in local time based on the 24-hour clock with the exception of "History of Flight" which is expressed in Coordinated Universal Time (UTC) or unless otherwise noted.

C. SUMMARY

On August 21, 1995, at about 1253 eastern daylight time, an Embraer EMB-120RT, N256AS, airplane operated by Atlantic Southeast Airlines (ASA) crashed after departing the Atlanta Hartsfield International Airport (ATL), Atlanta, Georgia. The flight was a scheduled passenger flight carrying 26 passengers and a crew of three operating under the provisions of Title 14 Code of Federal Regulations (CFR) Part 135. The flight was operating in accordance with instrument flight rules (IFR). While climbing through 18,000 feet, the flightcrew declared an emergency and initially attempted to return to Atlanta. The pilots advised they were unable to maintain altitude and were vectored toward the Carrollton/West Georgia Regional Airport (CTJ), Carrollton, Georgia for an emergency landing. The airplane was destroyed by impact forces and post-crash fire. The captain and seven passengers received fatal injuries.

D. DETAILS OF THE INVESTIGATION

1. History of Flight

At 1636:25, the flight crew of ASE529[1] made initial contact with the West Departure radar controller at the Atlanta Air Route Traffic Control Center (ZTL) and advised they were climbing from 13,000 to 14,000 feet msl[2]. As the flight progressed, the departure controller instructed the flight to climb to 15,000, FL190, and FL200. At 1642:40, the departure radar controller instructed the flight to climb to FL 240 (24,000 feet.) At 1644:25, the flight crew of ASE529 said, "Atlanta Center ASE529 declaring an emergency we've had an engine failure we're out of fourteen two [14,200 feet] at this time." The controller responded, "ASE529 roger left turn direct Atlanta [Hartsfield International Airport, (ATL)]." The flight crew acknowledged. The West Departure Sector Radar controller immediately coordinated with the Atlanta Approach controller and said, "Got ASE529 out here uh five west of the west one gate got uh engine failure is declaring an emergency he's in a left turn direct to the airport what can you approve him descending to." The Approach controller confirmed the transponder code, approved the point out and said, "...you can go straight on in to the uh [Atlanta Terminal Arrival] H guy." At 1645:09, the West departure radar controller said, "ASE529 say altitude descending to." The flight crew replied, "We're out of eleven six [11, 600 feet] at this time ASE529." The West Departure controller then coordinated with the Rome Sector radar controller and said, "Rome this is West point out there at west one gate is ASE529's an emergency an engine failure's in a left turn out of eleven six [11,600 feet] descending direct to the airport."

Once the emergency was declared, the West Departure Radar Associate Controller began coordinating with several sectors to ensure that surrounding airspace was protected. At 1644:47, the controller first coordinated with the Tiroe Sector Radar Associate controller and said, "Point

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[1]For air traffic control purposes, the call sign for the flight was ASE529.

[2]All altitudes will be in msl, mean sea level, unless otherwise noted.

out northwest of LaGrange ASE529 turning left going back to Atlanta [Hartsfield International Airport] it's an emergency." The Atlanta Center Tiroe Sector Radar Associate controller confirmed that the flight was going back to the ATL and approved the point out. The West Departure radar associate controller then pointed out the aircraft to the Atlanta Approach controller who approved the flight direct to ATL. The Departure Radar North and the Atlanta Approach controllers were also asked to protect airspace for ASE529. The West Departure Radar Associate controller requested an approach frequency from the ATL Approach controller who issued frequency 127.9.

At 1645:55, the West Departure controller said, "ASE529 say altitude leaving." The flight crew responded, "ASE529's out of ten point three [10,300 feet] at this time." The controller said, "ASE529 roger can you level off or do you need to keep descending." "At 1646:12, the flight crew said, "OK we uh we're going to need to keep descending we need an airport quick and uh roll the trucks and everything for us." The controller said, "ASE529 West Georgia [Carrollton/West Georgia Regional Airport (CTJ)] the regional airport is at your ten o'clock position and about ten miles." The flight crew acknowledged. The West Departure Radar Associate controller then coordinated with the Atlanta Approach controller for a different approach frequency and was issued frequency 121.0. The West departure radar controller requested the heading of the airplane to which the flight crew responded, "Turning to about three ten right [310 degrees] now." The controller said, "ASE529 roger you need to be on about a zero three zero heading for West Georgia Regional sir." At 1647:06, the flight crew said, "Roger we'll try to turn right we're having uh difficulty controlling right now." The controller acknowledged. At 1647:18, the controller corrected the heading to zero four zero which was acknowledged by the flight crew. At 1647:54, the controller requested the aircraft's altitude. The flight crew responded, "out of seven thousand..." At 1648:05, the controller requested the information again and the flight crew advised they were descending from six thousand nine hundred feet. At 1648:32, the controller said, "ASE529 West Georgia Regional is your closest airport the other one's Anniston and that's about thirty to your west sir." At the flight crew's request, the controller described the Carrollton/West Georgia Regional Airport, "West Georgia Regional is uh five say [runway] one six and three four and it's five thousand feet and it is asphalt sir." At 1649:47, the controller advised the flight crew that the transponder was lost and requested the aircraft's altitude. The flight crew responded, "We're out of four point five at this time. The controller replied, "ASE529 I've got you now the airport's at your let's see say your heading now sir." The flight crew said, "Right now we're heading ah zero eight zero." The controller said, "Roger you need about ten degrees left [the airport] should be twelve o'clock and about eight miles." The flight crew acknowledged and said, "...do we got a I-L-S to this runway." At 1650:08, the controller said, "Ah I'll tell you what let me put you on Approach he works that airport and he will be able to give you more information contact Atlanta Approach one two one point zero sir." The flight crew requested that the controller repeat the frequency, then complied.

At 1650:28, the flight crew made initial contact with the Atlanta Approach Satellite-F radar controller and said, "Atlanta Approach ASE 529 with you out of three point four.". At 1650:42, the flight crew called again and the controller said, "ASE529 Atlanta Approach." The flight crew replied, "yes sir we're with you declaring an emergency." At 1650:49, the controller

said, "...roger expect localizer runway 34 approach and uh could you fly heading one eight zero uh I'm sorry one six zero." The flight crew acknowledged and said, "Yeah we can do that give me the loc [localizer] freq [frequency]." The controller said, "Localizer frequency runway 34 localizer frequency is ah one one one point seven." At 1651:06, the flight crew responded, "one one one point seven give us vectors we'll go the visual." At 1651:26, the controller said, "ASE529 say altitude leaving." The flight crew responded, "We're out of nineteen hundred at this time." The controller verified the information and at 1651:34 the flight crew said, "Yeah, we're V-F-R at this time give us a vector to the airport." At 1651:37, the controller said, "ASE529 turn left ah fly heading zero four zero bear ah the airport at your about ten o'clock six miles radar contact lost this time." At 1651:47, the flight crew responded, "zero four zero ASE529." There were no further communications with the flight crew of ASE529.

2. Air Traffic Control Facilities

a. Atlanta Air Route Traffic Control Center (ARTCC)

The Atlanta ARTCC is a Level III enroute air traffic control facility which provides services 24 hours a day. The airspace encompasses approximately 103,000 square miles. This airspace overlies parts of Georgia, North and South Carolina, Virginia, Tennessee, Kentucky and Alabama. The facility operates 43 sectors on a full time basis and one sector part time. The West Departure Radar controller is responsible for the aircraft west of Atlanta in altitudes between 11,000 feet to 23,000 feet in an area of approximately 4,000 square miles. According to David Yarbrough, Atlanta Center Airspace and Procedures specialist, the radar is reliable in the area of the Carrollton/West Georgia Regional Airport to approximately 3,000 feet msl.

b. Atlanta Terminal Radar Approach Control (TRACON)

The Atlanta TRACON is a Level V radar approach control facility which provides services 24 hours a day for aircraft within the terminal area. This area is described as a 40 mile arc around the Atlanta Hartsfield International Airport, 14,000 feet and below. Contained within this area is the Atlanta Class B airspace, which is generally a 35 mile radius around the Atlanta Hartsfield International Airport, layered from the surface to 12,500 feet. The Carrollton/West Georgia Regional Airport is located beneath the Atlanta Class B airspace. The controller responsible for aircraft in that vicinity was the Satellite-F radar controller who was responsible for aircraft in that area from the surface to 11,000 feet. At the time of the accident, the facility was equipped with the ASR-7, ASR-8 and ASR-9. The ASR-7 was installed in late 1972 and commissioned on April 23, 1973. This was the primary ATC system in use by the TRACON and was being used by the Satellite-F radar controller (in addition to other controllers in the facility) the day of the accident. The ASR-8, located at Dobbins, was commissioned on November 10, 1982 and was used as a back-up for the Atlanta ASR-7 system. The ASR-8 cannot detect aircraft below 2,500 feet above ATL therefore with the ASR-8, the facility could not conduct simultaneous instrument approaches. The ASR-9 was installed in 1990 and was commissioned on October 20, 1995. The delay was due to the inability to relay both ASR-7 and ASR-9 information to the ATC facility while the ASR-9 was in the test mode. The ASR-7 was

on a microwave link and the ASR-9 was on a telephone line until problems occurred. The ASR-9 was then connected by fiber optic link, tested and commissioned and the ASR-7 was deactivated. On the day of the accident, the ASR-9 was not operational. The ASR-9 information was used for observation and familiarization.

The ASR-7 radar information was reliable in the area of CTJ to approximately 2,500 feet msl. ATL was responsible for CTJ arrivals because of the possibility of conflict between aircraft to/from CTJ and ATL arrival and departure aircraft that are controlled by TRACON controllers.

3. Equipment

A review of FAA Form 7230-4, Daily Record of Facility Operation, received from the FAA for the Atlanta TRACON and the Atlanta Air Route Traffic Control Center did not reveal any equipment outages that would have contributed to this accident. There were no notices to airmen (NOTAM) indicating any outages for the Carrollton/West Georgia Regional Airport.

As a result of the accident, the Atlanta ATCT Airport Surveillance Radar (ASR), Air Traffic Control Radar Beacon System (ATCRB), ATLE RTR, Air Route Surveillance Radar (ARSR) Channel "A," Automated Radar Terminal Systems (ARTS), Multi-Channel Recorder (MCR), Atlanta Remote Communication Air/Ground (RCAG) frequency 121.0 and the Anniston, Alabama RCAG frequency, 134.95 was certified. The Carrollton/West Georgia Regional Airport Localizer and the Carrollton non-directional beacon (GPQ) were verified on August 25, 1995.

4. Automatic Weather Observation System (AWOS) Information

The CTJ Airport AWOS-3 observation for August 21, 1995 at 1641 UTC was: 600 feet overcast, visibility 10 miles temperature 76 degrees fahrenheit, dew point 75 degrees fahrenheit, wind 130 degrees at 2 knots, altimeter 30.08 inches. The AWOS information was available via landline (published in the Airport/Facility Directory) and radio frequency (published in the Flight Information Publication.) Air traffic control facilities do not have immediate access to this information.

The Carrollton/West Georgia Regional Airport has one asphalt runway (16/34) which is 5,001 feet long and 100 feet wide. The runway is equipped with Precision Approach Path Indicators (PAPI) and Medium Intensity Runway Lights (MIRL). There are ILS (localizer only), Non-Directional Radiobeacon (NDB) or Global Positioning System (GPS) approaches to runway 34. Because there is no scheduled commuter or air carrier service, the airport is not certificated under Federal Air Regulation (FAR), Part 139.

The CTJ airport is equipped with an AWOS-3 which was purchased by the airport. According to Ray Fletcher, Aviation Programs Manager, Georgia DOT, the state of Georgia paid 75 percent of the acquisition and installation fees; the airport was responsible for the final 25

percent plus maintenance fees, and assumed ownership. In order for this non-federal AWOS-3 information to be disseminated to air traffic control facilities, the AWOS-3 must be connected to a private network, such as Pan Am Weathermation, which collects the data approximately three times per hour via satellite link then disseminates the information through the National Airspace Data Interchange Network (NADIN) system. The initial cost for activation (software and satellite linkage) is approximately 10,000 dollars plus 175 dollars per month. The airport is responsible for these costs. Mr. Fletcher stated that it is cost prohibitive to acquire these services based on the amount of traffic at the CTJ Airport.

5. Atlanta ATCT Controller Interviews

Tuan Manh Le **ATL Satellite F Radar Controller**

Entered on duty FAA:	September 6, 1982
Entered on duty ATL ATCT:	August 13, 1989
Full Performance Level:	June 18, 1991
Most recent tape talk:	May 31, 1995

Mr. Le was interviewed by the ATC Group on August 24, 1995. In response to questions, he indicated the following:

His date of birth is [redacted] 1959. He entered on duty in 1989. He had no military experience and was not a pilot. His operating initials were LE. His most recent medical certification was in July 1995 with a requirement to wear glasses for distant vision. He was wearing glasses while working the Satellite-F Radar position the day of the accident. His immediate supervisor for approximately the past 2 years was Jim Hathcock. Prior to assuming the Satellite-F radar position, he was on break for approximately 45 minutes. The day of the accident his assigned shift was 0615-1515 on the third day of a four day work-week. He worked the alternate work schedule.

He received a complete relief briefing when he assumed the Satellite-F radar position. The briefing was accomplished by the automated checklist. He recalled the weather conditions and the runway configuration at several airports. The weather conditions were IFR with poor visibility which he described as 3 miles with fog and haze. The runway configuration for Atlanta and surrounding airports were: DeKalb/Peachtree Airport (PDK) (ILS 20L), Fulton County Airport/Brown Field Airport (FTY) (ILS 8), Dobbins Air Reserve Base (MGE) (11), Cobb County-McCollum Field (RYY) (LOC 9). When asked about the poor visibility he described it as 3 miles with fog and haze. This was supported by his observation of 2 people monitoring simultaneous approaches into ATL and drizzle when he was driving in to work.

Approximately 2-3 hours prior to the accident an aircraft landed at FTY and CTJ. The aircraft inbound to CTJ did not cancel IFR until after landing which he believed was unusual.

He became aware of ASE529 from a conversation he overheard from across the room about "an aircraft" returning to ATL with one engine out. He could not recall who was discussing this information.

He became aware that the aircraft was coming to CTJ when the Approach Wall Supervisor (Chester Vile) pointed to the aircraft on his plan view display (PVD). Three to five minutes later he saw the radar target start circling 55-60 miles southwest of ATL. He saw the altitude indicate 100 (10,000 feet) and descending but he was not sure of any exact altitudes. The aircraft transmitted to the Satellite-F radar controller when the flight was approximately 5-6 miles WSW bearing 260 degrees from CTJ. He recalled that the data information was: ASE529, E120, altitude 040 or 045 then it changed to "XXX" when the computer could not keep up with altitude changes.

He recalled the sequence of events:

- He was advised that the aircraft would be diverting to CTJ with one engine out. He indicated that was the only information he received regarding the emergency aircraft.
- The supervisor, Jim Hathcock, said ASE529 would be on frequency 119.8 (Satellite X). Another controller (John Moss) set up Satellite X to make the range bigger to enable him to see the radar target easier.
- He took out the approach plates to CTJ in case someone needed the information. He selected the LOC 34 approach because he believed it was a better choice than the NDB due to the IFR weather.
- Because he expected the flight to be on a different frequency, when the flight crew of ASE transmitted, he was surprised; however, due to the nature of the reported emergency he was not concerned because he believed that the aircraft should be controllable for "at least 20 miles."
- He planned to put the flight on the LOC approach due to the marginal weather and asked the pilot if he could accept a 160 heading. The pilot responded "sure." He believed that the aircraft was under control because the pilot could accept the vector. He believed that there was no major problem occurring.
- The pilot requested the localizer frequency which he issued.
- Because the pilot could accept the localizer approach , he planned to give a "nice turn" then get emergency information. He would set the flight up outside the NDB, to give a slow good turn because the flight could not fly fast.
- He requested altitude information from the flight crew and the pilot responded "1900." Le was surprised because the altitude was "low;" therefore, he verified the information.

- Pilot stated, "Yea, we're VFR give us a vector to the (CTJ) airport." Le lost the aircraft on radar but was not real concerned because of the radar target position in relation to the radar antenna. The target could reacquire 5-6 miles later. However, he was concerned about the altitude.
- He instructed the pilot to turn left but Le did not know the flight's exact heading or position in relation to CTJ. The last estimated position was 10 o'clock six miles to airport which is why he suggested that the pilot fly heading 040 and advised radar contact lost. The pilot responded "040".
- He described a prior situation where he was unable to maintain radio contact at 2500 feet on frequency 121.0. Therefore, during this situation he issued a frequency change to 118.7 which is a remote transceiver used by pilots at CTJ to cancel IFR and call for clearances.
- He again tried to issue general directions of the airport at 10-12 o'clock 4 miles so maybe the flight crew could see the airport.
- He lost radio communication on 121.0 but he did not know if it was because the flight crew changed to advisory frequency.
- He asked a flight inbound to FTY to transmit to ASE529 for radio communication but did not vector that aircraft to visually look for the aircraft.

He recalled the weather sequences for FTY and Dobbins Air Force Reserve Base (MGE) which was: measured ceiling 1500 feet with 2-3 miles with haze and fog. The wind was from the southeast. He recalled the weather because he had flights inbound to these airports.

He believed that when he lost radio communication with the flight crew the flight crew changed to advisory frequency then would cancel IFR after landing. He believed the flight landed safely at CTJ but was just too low to talk with him and the flight crew was too occupied to talk to him due to the problems with the aircraft.

After the incident, Le was asked if he wanted to be relieved from position which he said "yes." He indicated that he "never refused a break before." He found out about the accident after he came back from break. The area-manager-in-charge (AMIC) said a citizen reported that an aircraft crashed. The AMIC showed him the location of the crash on a map (Highway 316, 3 miles west of CTJ). He believed that ASE529 landed on a road or in a field in a "controlled crash."

There was no concern in the pilot's voice so he believed it was a routine engine out emergency. This type of emergency occurs about once a week or once a month and they are "routine" incidents.

He believed that the localizer approach was the safest way in due to the weather. It was "better than flying around looking for the airport." The ATL facility does not monitor the localizer to CTJ. To his knowledge there were no NOTAMs that the localizer was out of service and he could not recall any equipment listed out of service on the IDS. He believed that the localizer was operational because another aircraft landed 2-3 hours earlier.

While on position during this session the hand off position was not staffed. Normally the position is only staffed when the position is busy or because of the complexity of the traffic; however, he can request one. Then the position is staffed in 30 seconds to 1 minute later. The supervisor usually assigns one before a request is necessary. The supervisor knows when a hand off controller will be needed based on the number of flight progress strips in the strip bay, controller "very rarely" need to ask. Mr. Le did not believe that he needed the handoff position staffed. He believed that his traffic was relatively light; one military flight from Dobbins Air Reserve Base, but no real problems.

He stated that he monitored frequencies 121.0 (primary frequency), 119.8 (Satellite X frequency), 118.7 (remote transceiver), and the UHF Dobbins frequency 381.65. Frequency 119.8 is a shared frequency between Satellite P and F. Whoever needs it takes it and the other controller drops off.

The supervisor and area manager were standing behind him immediately available for help. However, because help was not needed, no assistance was offered.

He is comfortable with working the Satellite-F radar position. He has been certified for approximately 4-5 years on that position.

He received a point out twice on the aircraft, once from the Supervisor, Chet Vile, and once from ZTL. He blocked the area around CTJ from the surface to 11000 feet and he knew the departure controller was blocking 12-14000 feet.

Last data block froze on scope at the point the computer lost tracking. He could not recall the altitude or speed of the aircraft. He did not use the slew ball to indicate the last location. He did not make any computer entries.

There were no radar or radio problems during this event.

He did not believe he could have done anything else while the flight crew was on frequency.

He described the other traffic on frequency during the time of the accident. He stated that he was controlling 4-5 aircraft: one aircraft was 30 miles southwest of ATL; one aircraft was turning on the Cobb County-McCollum Field Airport

(RYY) LOC; one Baron or Kingair to FTY (who listened for ASE529 on frequency), and one military aircraft, Cuddy 99, that departed Dobbins Air Reserve Base southwest bound. There were no aircraft within 20 miles of ASE529.

He reviewed the ATC tapes approximately one hour after the accident but not since.

He had an alcohol test 3 hours after the incident. He went to the Henry General Emergency Room to ensure "I was OK". He had a urine and blood test which were all negative for alcohol and drugs. This was done as a result of a letter from the FAA, Jimmy Conners, requiring a drug test. He did not know if the NTSB requested a drug test.

He used the ASR-7. He set the radar range on 60 miles. The filter limits for untracked targets was set at 010-125 which is 1000 feet above his area of responsibility. For tracked targets the filter limits were 045-065 to remove arrival flights into ATL. The ASR-7 did not depict any precipitation while ASE529 was on frequency. Earlier the ASR-7 depicted some precipitation to the southeast. The MTI was on and the gate was set for 20 miles. The circular polarization (CP), which is controlled by the supervisor, was activated.

He did not know which engine was out; however, he indicated that this knowledge is of no use to a controller except to advise the rescue equipment.

When he has arrivals to CTJ, he will issue the AWOS frequency to the pilot.

The pilot seemed calm. When the pilot stated that he was out of 1900 feet he felt concern in the pilot's voice. He was also concerned. He did not detect distress in the pilot's voice from initial contact until losing radio contact.

When asked when radar targets are lost in the area surrounding CTJ, he stated that it depends on the radar system in use. Sometimes they lose the primary target but have a beacon. The ASR-7 is located at ATL, south of the field next to runway 9R/27L on a hill midfield.

He suggested a 040 heading based on the last known position of the aircraft.

If he detected distress or the pilot stated "Mayday" indicating that the situation was worse than he believed, he would have activated the emergency map which depicts roads, lakes and hospitals. There are 5 maps available for controllers at ATL. Map 1: Emergency map; Map 2: Class B airspace; Map 3: Finals; Map 4: ATL East operations; Map 5: Atlanta west configuration. At the time of the incident he had map 4 selected. He would have activated map 1 and turned off map 4 to reduce the clutter. The map presentation is immediate although it takes

6 seconds (one complete radar sweep) to show the entire map. These maps are current to the best of his knowledge. The emergency map may have helped in this situation because Highway 316 is northeast bound which is the same direction as ASE was heading. The flight could possibly have landed on the road. However, it was unknown if the weather was less than VFR.

He is current in all certifications.

He was responsible for all "F" airspace, it was not shared.

It would be beneficial to know the CTJ weather at the satellite position. It may have shown that the weather was better and he could have vectored the flight for a visual approach. In an emergency situation a more direct route is best for the pilot.

The weather is displayed on the Information Display System (IDS). The IDS is three pages of information which displays the weather for ATL, FTY, PDK, MGE, the runway in use at RYY and whether or not the field is VFR or IFR. He stated that the facility needs a better IDS because the current one is too difficult to read if one more line were added.

He knew of no significant meteorological (SIGMETs) for the area and he had no pilot reports (PIREPs) for the area.

He saw no "7700" code on the PVD.

He believed it was a good idea to open Satellite X and block frequency 119.8 for the aircraft.

Stanley Ensley **ATL Area Manager in Charge (AMIC)**

Entered on duty FAA:	October 21, 1968
Entered on duty Los Angeles Center:	May 23, 1976
Entered on duty Jacksonville Center:	August 27, 19788
Entered on duty Atlanta Center:	February 17, 1985
Entered on duty Atlanta ATCT:	October 3, 1993

Mr. Ensley was interviewed by the ATC Group on August 23, 1995. In response to questions he indicated the following:

He was responsible for the overall operations in the control room and in the entire tower and radar facility. Regarding the aircraft accident, his only participation was a phone call from, who he believed, the AMIC at the ZTL who asked him if

he knew of the emergency. He replied yes because he overheard conversations regarding ASE529. At this time another Supervisor, Jim Conner, was near the AMIC desk so he asked him to take the position so he could physically go to the position involved with handling the aircraft.

He heard about the emergency from the flow person (located 12-15 feet from the supervisor's desk), he looked at the radar scope (ASR-8 located at Dobbins AFB) where he saw the flight displayed. He noticed that the altitude was 120 and the flight was in the vicinity of the west one departure gate. (Flow control personnel use the ASR-8, two positions use the ASR-9, all other scopes use the ASR-7.)

He watched the target for a few seconds and when he overheard that the pilot requested to land at CTJ instead of ATL, he looked at the Satellite-F radar display.

He walked from the traffic management position to the Satellite-F scope where ATCS Le was assigned the radar position and John Moss plugged in the Satellite-F handoff position. There were others nearby who were discussing ASE529. The data block was displayed on the scope at Satellite-F including alpha numerics. He could not recall if the "C" or "F" was displayed (indicating which control position had responsibility for the aircraft) but he believed it was the approach icon ("H"). He stated that the only altitudes he observed were 120 when he was at the TMU desk and 050 at the Satellite-F position.

He recalled that there were 5-6 aircraft on the Satellite-F display and he wanted to isolate ASE529 on a separate position; therefore, he assigned Moss to unplug and open Satellite X (located directly to the left of Satellite-F).

He instructed Moss to call ZTL to put ASE529 on frequency 119.8 (Le was using 121.0) where the flight would be isolated and the frequency just as reliable. Then only one controller would be working the emergency aircraft.

He did not monitor the frequency or talk to the flight crew, he only directed controllers.

Le advised that the aircraft came on frequency. He instructed Le to work the aircraft and not to change him to the other frequency.

Le asked if the pilot could fly a 160 heading. Either shortly after or simultaneously, the pilot indicated that he wanted a visual approach and Le issued the position of the airport. Le suggested a 040 heading and the pilot stated he was VFR.

He became concerned when Le said the pilot said he was out of 1900 feet. (He could not recall when this occurred.)

Shortly thereafter radar was lost on the aircraft. He noticed that the clock said 1650 UTC. He stayed at the position until Le called the aircraft a few times and saw no target. He heard Le offer 118.7 to enable the pilot to talk at a lower altitude.

He looked and saw no target. Moss slewed to keep the ball on the target to determine coordinates.

After several updates, and considering the flight was descending from 1900, he believed that the aircraft would not make it to the CTJ airport.

He walked to the flow radar scope (ASR-8) and saw no target, he then went back to the desk and said "I believe we're gonna lose this aircraft, we better start notifying people."

Jim Conner called the CTJ airport. Although it was difficult getting through, he finally asked if the aircraft was on the airport. The reply was no. Then he heard that a citizen had reported a crash and requested he be connected with 911 but communications were lost.

Mr. Ensley dialed the Carroll County Sheriff's Department, using the information contained in the binder located at the position, who answered immediately. He asked if the facility knew of the crash and was told that crash equipment, highway patrol and fire department were responding to an accident in the woods off Birwell Road off Highway 166 W between Bowdon and Carrollton. He then began to collect information and notified the FSO and the FAA Region.

He did not know the weather in the vicinity of the accident.

He knew of no equipment or radio problems, no one advised him.

Le was relieved from position approximately 3-4 minutes after the last transmission with the accident aircraft.

After Le issued the localizer frequency, he looked up at the overhead display and verified the information. He could not recall seeing the approach plates.

He had no indication that the pilot could not fly the approach to CTJ. He believed the pilot could.

There were a couple of supervisors in the room. He saw Vile near Le but could not recall Vile's actions.

He believed nothing else could have been done in the time frame that the accident flight was on frequency.

He initiated the preliminary accident package.

Chester Brooks Vile **ATL Approach Wall Supervisor**

Entered on duty FAA:	May 26, 1969
Previous Experience	
Detroit Metropolitan Airport:	September 16, 1973
Detroit Terminal Radar Approach Control:	March 12, 1986
Entered on duty Atlanta ATCT:	August 12, 1990
Full Performance Level Controller:	June 27, 1991
On-the-Job Instructor:	August 30, 1992

Mr. Vile was interviewed by the ATC Group on August 23, 1995. In response to questions, he stated:

He entered on duty at ATL on August 12, 1990. Regarding this accident, he received a call from the ATL TMC who told him ASE529 was returning with an engine out. He then waited until the aircraft was handed off from ZTL.

He first saw the aircraft on the radar display when the Departure radar North controller came over and told them about ASE529 coming into the West 1 departure gate and was "our control" with Departure and Satellite. This meant they could turn and descend the aircraft and the other controllers would watch him.

He monitored the call from the center, 224 line, and heard that ASE529 was coming in the West 1 gate and he "pointed out" the aircraft. TAR-H (Terminal Arrival Radar Handoff) stated that he did not see the aircraft. Mr Vile looked a different scope (ATL ASR-9) and said, "I see him" and stated that the flight should be given frequency 127.9 (TAR-H frequency). (The controller's range was not out as far as the ASR-9, which was probably 50-55 miles.) He could clearly see that area. After he coordinated, he physically pointed out the aircraft to TAR-H because he expected the flight inbound to ATL. Due to the emergency, the ATL arrival controller would have given the flight priority.

The center controller asked if he had "radar" and Mr. Vile stated, "affirmative." He stood nearby to listen to the controller talk to the flight but nothing happened. He looked at the screen and saw that the aircraft was northwest-bound where before the aircraft was direct to ATL.

He then initiated a call to ZTL and requested that whoever was working the accident flight call on the 224 line. A female answered and Mr. Vile asked the aircraft's destination. She stated that the pilot wanted to go to Carrollton/West Georgia Regional Airport. He advised her to issue 121.0 (F Satellite frequency). She asked if he was "radar contact" and he replied, "radar." Because he believed that the situation was imminent, (emergency aircraft always return to the main airport, ATL, but not to an uncontrolled airport) he ran to the Satellite-F controller to advise that the flight was now going to CTJ with one engine out and coming to him on his frequency.

He then yelled to the supervisor who was located at the opposite end of the floor, that ASE529 was going to land at CTJ. The AS and AMIC then went to the Satellite-F position and Mr. Vile went back to his area of responsibility.

He then noticed that the aircraft was on an "H" tag, via the ARTS he handed the aircraft off to the Satellite-F position. He looked and again saw the flight on a "C" tag flashing at "H" again. He again accepted the handoff and initiated a hand off to the Satellite-F radar controller. (He explained that the center probably put in a destination change when the flight was in their airspace which is why the double handoff.)

When the center initiated the handoff, he stated that the altitude was between 110-111. When the controller started speaking to the flight, the aircraft continued to descend. When the controller was done talking, the flight was out of 107. Soon thereafter, the flight was at 040-045 and the tag was frozen but not on the aircraft. He kept watching to locate the aircraft when the tag jumped back on the aircraft.

He saw the target enter "coast." He was concerned but he did not know if this occurred because of the aircraft's position in relation to the antenna or the radar coverage. The aircraft was on one engine then disappeared from radar.

He did not know the weather conditions at CTJ.

There were no radar or radio problems. He would know if the outages affected approaches into ATL. Satellite-F controller or other supervisor would advise him of the outage.

The ASR-9 is a "newer" radar than ASR-7. The ASR-9 has better clarity, coverage and depict levels of precipitation.

He did not speak to nor hear the pilot.

The TAR-H scope was set at the "normal" range. His scope was set out longer to look to see inbound flights.

He was not aware of which engine was out or that the pilot requested equipment.

6. ZTL Controller Interviews

Donald Mark Thompson **West Departure Radar Controller**

Entered on duty with the FAA:	February 3, 1983
Entered on duty ZTL:	April 24, 1983
Full Performance Level Controller:	December 12, 1985
On-the-Job Instructor:	January 13, 1987

Hours worked the West Departure Radar Position since July 17, 1995: 11 hours 36 minutes

Mr. Thompson was interviewed by the ATC Group on August 22, 1995. In response to questions, he stated the following:

His date of birth is [redacted] 1956. He graduated from the FAA Academy in Oklahoma City, Oklahoma in April 1983. He did not have military experience and he was not a pilot. His operating initials were DT. His most recent medical certification was in December 1994 with no waivers or restrictions. His immediate supervisor, since April 1995, was Arthur T. Crook. The day of the accident he worked 0800-1600, the second day of a four day work-week. His previous shift was 1600-0000. He wore a headset and monitored frequency 134.95 and a UHF frequency.

The day of the accident he signed on the West Departure Radar position at 1533 UTC (1133 local). ATL has a departure push every two hours and he assumed the position when the traffic was in a lull, prior to the noon rush. He received a complete briefing which included information about the sector (routine), equipment (no frequency outages and the radar was operating normally), weather (no factor at the time), he knew of no NOTAMs. Regarding the weather, he first believed that weather would be a factor to operations when a departing flight (American Airlines) reduced the speed due to "overhang;" however, the flight resumed normal speed. A Delta flight that departed behind American, began to overtake the American flight; therefore, he needed to issue a 280 knot restriction to the Delta flight. He stopped the Delta flight from climbing, kept it 1000 feet below American, then climbed it as American continued to climb. He then stepped up ASE529 behind the Delta flight. Every flight departing Birmingham and Atlanta were on course; there were no deviations for weather.

The weather at ATL was IFR. Instrument approaches were in use because of the low ceiling; however, the weather had improved from the previous day.

A manual controller (D-side) was assigned to assist him after the departure push started but prior to ASE departing ATL.

ASE529 departed ATL before two faster aircraft, an American and a Delta. When the ATL controller handed off ASE529, he kept ASE529 low in order to climb the jets. There was a possible conflict between Cuddy 99, located in the vicinity of Anniston at 16,000 feet and a Kingair at the same altitude. He instructed the Kingair to turn 10 degrees right to go behind the stream of departures from ATL. ASE529 was instructed to climb to FL200 and continued to climb. When the flight was clear of conflicts, he instructed the flight to continue to FL240. He then turned his attention to the Delta departures that followed ASE529. When he heard "emergency" his eyes focused on the ASE529 data block. He noticed that the flight was in a left turn but he could not recall the altitude. He indicated that he had engine failure emergencies before and this type of emergency is common. He made the decision to return the flight to ATL because it was the flight's "home base" and the emergency equipment was there. Because the pilot was calm, he issued a left turn direct Atlanta which the flight crew acknowledged. He did not ask for additional (emergency) information because the position of the flight was critical and a lot of coordination needed to be accomplished. The D-side controller began the coordination with the South sector because they have similar altitudes so he needed to coordinate rapidly in case that sector was holding aircraft. If the flight descended rapidly it would put the aircraft in a lower sector. All of this coordination was accomplished in approximately 30 seconds. He then hollered "emergency." He was confident that the supervisor and D-side knew all the information he knew.

He decided that the best way to handle the situation was to send the flight back to Atlanta because the facility was "east" and the flight could easily be blended in the arrival flow.

His first indication that the emergency was more serious than a routine "engine out" was after he requested the altitude and it was lower than he expected. He did not expect the flight to descend as rapidly as it did.

When he requested the altitude the pilot calmly stated the altitude it was leaving. He heard the D-side coordinate with ATL and he asked if the flight could "level". The pilot stated that he needed to keep descending, needed an airport quick and "roll the trucks and everything." He felt busy. He realized that a "tracker" (position that can monitor the radar position and assist the radar controller by moving data blocks and conducting additional coordination) was there when someone handed him the approach book which contained the airport configuration.

When he realized ASE529 was in a left turn he requested the heading and the pilot stated 310. He advised that the pilot needed to turn east to a heading of 030.

He believed the pilot was having a hard time controlling the aircraft. When the flight was descending from 8000 feet, it seemed the pilot had more control of the aircraft. He could see the right turn being made.

He continued to scan the radar display. He had two Cuddy training flights into Columbus AFB (CMB) with bad radios. These flights were potential conflicts with other aircraft.

Once ASE529 was eastbound, the descent slowed and he believed the pilot could control the aircraft. He believed that Atlanta Approach had more information regarding CTJ and could better handle the aircraft; therefore, he transferred the aircraft when it was descending from 4,500 feet. He requested the heading then issued a left turn 10 degrees and instructed the aircraft to transmit on frequency 121.0 as directed by ATL.

There is no weather reporting at CTJ. ASE529 requested the runway configuration and the controller glanced at the approach plate book (listing all airports in the vicinity) but could not read it due to the lighting in the radar facility. Therefore, he requested the information via the position keyboard by typing "A" "I" "CTJ" enter (AI is Airport Information.) The information was displayed on the CRD (Computer Readout Display).

The radar was set on 75 mile range and the altitude filter limits were 098-242. Weather "3" was selected and no heavy precipitation was indicated. There were no weather deviations all morning.

He made the decision to send the aircraft to ATL, no one told him. He based the decision on ATL being better able to assist the aircraft.

He knew of the accident approximately 5-10 minutes later when he heard the supervisor state "he didn't make it." He did not know when the supervisor became aware of the accident.

When asked how many hours he had worked the radar position, he stated that he is required to maintain currency for 16 hours per month based on his staff position as a traffic management coordinator (TMC). Prior to being TMC he was a trainer, evaluator and has received many awards and is comfortable working the position. He is not certified on all area 6 sectors; he is certified on all low altitude sectors which include West Departure, DALAS, and RMG Low.

There were extra TMCs at noon and because he needed 6 hours, he requested to work the operation. He got his headset and told the supervisor he would be there until 1530 local time. The supervisor told him to check the break board (board

to indicate who is next for break). He saw that the West Departure radar was next. He received a briefing and worked the position.

The Supervisor put tracker there to assist while the supervisor was behind him. He did not give a briefing to the tracker because there was no time.

He did not drop the track on ASE529. He remained on position approximately 15-20 minutes after he knew of the accident (until approximately 1709 UTC.)

He issued frequency 121.0 (Satellite frequency) because he either heard the D-side say the frequency or saw the information written somewhere.

Carrollton/West Georgia Regional Airport is depicted as a box on the radar display. He issued distance to the airport based on his line of sight, he did not measure the distance.

He normally issues the Fulton County weather for Carrollton. Fulton County Airport is located approximately 20 miles ENE of Carrollton/West Georgia Regional Airport and he normally issues the Anniston altimeter. He thought of issuing the weather but because the flight just departed ATL he believed the pilot knew the weather. However, he indicated that there is no weather reporting at CTJ. Normally controllers need to call the fixed base operator (FBO) for it but he does not know if they are qualified to issue the weather.

He provided a specimen for an alcohol test on August 21, and a drug test on August 22, 1995. Initially he was told a drug test was not needed. When he got home from work, approximately 30 minutes later, he received a phone call from the AMIC that he was required to be back by 1730 for an alcohol test. There was no blood test. The testing was per an FAA attorney (probably from the Southern Region). There was no NTSB request.

There were various SIGMETS affecting an area South of Vulcan (VUZ) and East of Atlanta but not in the vicinity of the West Departure. SIGMETs are received by air traffic assistants who put the information in front of the sector involved. There were no PIREPs.

He did not believe the pilot was in a life threatening emergency because the pilot did not seem distressed. When the pilot stated it was an engine failure emergency, he indicated that this type of emergency is routine and common, it occurs about once per week. When he issued a left turn direct to Atlanta he believed the pilot could comply or the pilot would have said something. To assist the emergency aircraft, ATL tower controllers would stop departures and sequence this aircraft on the departure runway, which is over 2 miles long.

He believed he could have received emergency information and issued weather information when the flight was eastbound. However, when the approach controller said they had "radar," it was a good time to transition the aircraft to arrival and get the aircraft safely on the ground.

He did not see a "7700" transponder code.

The operations, other than the emergency, were routine on the radar position. There were no equipment or radio outages.

Flights were holding at the RMG fix, but it did not affect him.

On October 23, 1995 Mr. Thompson replied to two written follow-up questions.

Question 1: "The day of the accident, at approximately 1646:30 UTC, you issued the Airport as "ten o'clock, 10 miles." How did you determine 10 miles?" He replied, "ASE529 had been cleared direct ATL. He did not indicate he was doing anything other than direct ATL (approximately 075 degrees heading). Assuming ASE529 was direct ATL, I issued the CTJ Airport position as an estimate from his present position."

Question 2: "Did you use any automated feature in order to determine the mileage?" He indicated, "I estimated 10 miles from experience and range marks depicted on the PVD map."

Natalie Davis **D-4 (Manual assist to the west radar controller)**

Entered on duty FAA:	June 22, 1988
Entered on duty ZTL:	June 22, 1988
Full Performance Level Controller:	February 4, 1994

Ms. Davis was interviewed by the ATC Group on August 22, 1995. In response to questions she indicated the following:

Her date of birth is [redacted] 1966. She graduated from the FAA Academy in 1990. She had no military experience and she was not a pilot. Her operating initials were NT. Her most recent medical certification was in January 1995 (although her birth month is October, she was on maternity leave during that period.) She had no waivers or restrictions. Her immediate supervisor was Rich Hastings since April 1995. She had been a full performance level controller for approximately 18 months to two years. The day of the accident her assigned shift was 0630-1430 which was the third day of a 5 day work-week. Her previous two shifts were 1545-2345 and 1445-2245, respectively.

She signed on position at approximately noon after a 40 minute lunch break. She received a position briefing from the radar controller. Briefing items included the sectors adjacent to the position, weather and traffic. There were no combined

positions and the there was no weather in the area. The traffic included departures from Atlanta and several point outs.

She was aware that ASE529 had departed ATL on a Montgomery (MGM) preferential departure route (PDR) which was a west heading. She pointed out the aircraft to the sector controller responsible for the area above her in order to climb the flight to FL240. ASE529 was held below some traffic, issued a higher altitude then handed off to the LaGrange (LGC) sector. When the flight was northwest of LGC the flight crew stated that they lost an engine and declared an emergency. The flight turned south. She did not recall seeing any primaries near the target. The flight was cleared to Atlanta and she began coordination with surrounding sectors.

She did not recall the weather at the time of the accident, but did recall seeing the FTY weather sequence that indicated a visibility of 9 miles with light rain and fog. She could not recall when she saw this. When asked if she believed weather were a factor she responded, "yes, if the pilot could not see the airport." She was not concerned about the weather because approach would handle the aircraft.

During coordination she heard the radar controller say "Carrollton" and told the person she was coordinating with to "stand by." She could not hear the pilot because while she is on the interphone, the frequency is blocked, it does not go on the speaker. She recalled the tracker coming over to her position soon after the emergency was declared. She got the approach book for the sector and discussed airport information with the radar controller.

She "hollered" at the supervisor (there were at least 2 standing by at the time the emergency was declared.) She stated that one coordinated with the watch desk and one walked to the low sector and pointed out the aircraft. She typed in the CID of an aircraft that was a possible conflict at 5000 feet but ASE529 turned so it was no conflict.

She did not attempt to get the weather for the Carrollton/West Georgia Regional Airport and did not know if it was a requirement to issue it. Normally aircraft inbound to the Carrollton/West Georgia Regional Airport cancel IFR at about 4000 or 5000 feet and continue in under visual flight rules. Atlanta Center does not clear aircraft for approaches to CTJ. CTJ is depicted on the radar display.

The radar display is set on the 75 mile range and the altitude filter limits are normally 098-242. She did not recall seeing precipitation on the PVD for her area of responsibility; however, pilots did not request to deviate for weather. She did see weather south of her area.

Normally her position does not coordinate with the Atlanta Approach South Arrival controller. The information that allowed her to dial directly to that position could be contained on the cheat sheet (information located under the Plexiglas at the position) but knew she could get them via the 225 line which is the DALAS arrival line.

When the pilot declared the emergency, she was concerned but did not believe it was catastrophic. She had seen them declare an emergency then return to the airport. It has happened but it is not an every day occurrence.

Frequency 127.9 is the arrival frequency to hand off the aircraft to the Atlanta Approach South Arrival controller but she was coordinating when the pilot changed the destination. The aircraft received 121.0 which was issued by approach control. She wrote the information on a piece of paper and put the paper in front of the radar controller.

She could not determine the rate of descent; she could not recall seeing a Mode C readout.

She found out about the accident while she was on position. She was relieved from position a short time later.

She submitted to a drug test on August 22, 1995. There was no blood test. She did not know who requested the test. Ms. Davis signed a form that stated she would not consume alcohol for 8 hours; when she returned home she was told to return for the alcohol test.

There were no problems with the radar equipment. Although the frequency was not clear, this was normal. There were no frequency problems with ASE529.

She had a data block for ASE529 the entire time but lost the radar track and does not recall when the computer reacquired the radar track. She either saw or heard the pilot report the altitude of 4,500 feet and she believed she saw an altitude at 2,500 feet. She did not know if the flight would make it to CTJ.

She did not see a "7700" transponder code nor did she hear the pilot declare "mayday."

Ms. Davis stated that there was never a need to know the weather at CTJ.

Ms. Davis indicated that the pilot had a very calm voice.

7. Air Traffic Control Procedures

FAA Order 7110.65, dated July 20, 1995, Chapter 4, "IFR," Section 7, "Arrival Procedures," paragraph 4-7-13, "Approach Information," states in part, "Both En route and Terminal Approach Control Sectors shall provide current approach information to arriving aircraft at airports where your facility/sector provides approach control services on first radio contact or as soon as possible thereafter....6. Controllers without access to current airport weather data shall inform pilots that the weather is not available and the frequency where automated weather data may be obtained.

Phraseology: (Airport) AWOS/ASOS weather available on (frequency)."

8. Radar Data

The Air Traffic Control Group collected National Track Analysis Program (NTAP) from the Atlanta Air Route Traffic Control Center and Continuous Data Time Sort Output (CDTSO) data from the Atlanta ATCT. Both were given to the NTSB Performance Group Chairman.

[redacted]
Sandra L. Rowlett
Sr. Transportation Safety Specialist
(ATC)
RLW 11-22-95