



Aviation Investigation Final Report

Location:	DALLAS-FT WORTH, Texas	Incident Number:	FTW95IA126
Date & Time:	February 27, 1995, 20:54 Local	Registration:	N1763
Aircraft:	MCDONNELL DOUGLAS MD11	Aircraft Damage:	None
Defining Event:		Injuries:	68 None
Flight Conducted Under:	Part 121: Air carrier - Scheduled		

Analysis

ON THE NIGHT OF THE INCIDENT, THE LOCAL CONTROLLER CLEARED AMERICAN FLT 2351, N1763, TO LAND ON RWY 35R. SEVEN SECONDS LATER THE SAME CONTROLLER INSTRUCTED LONE STAR FLT 1219, N355AE, TO TAXI INTO POSITION AND HOLD ON RWY 35R. NEITHER CREW HEARD THE OTHER'S CLEARANCE, NOR WAS EITHER ADVISED OF THE OTHER'S POSITION AS REQUIRED. THE TOWER CAB SUPERVISOR NOTICED THE CONFLICT & ALERTED THE CONTROLLER. THE CONTROLLER COULD NOT RECALL THE CALL SIGN FOR AA2351, AND ISSUED GO-AROUND INSTRUCTIONS USING INCORRECT CALL SIGNS AA1251 & AA1261. AA2351 OVERFLEW LS1219 BY ABOUT 35 FT BEFORE TOUCHING DOWN. THE LOCAL FREQUENCY WAS VERY BUSY, AND THE CONTROLLER'S WORKLOAD WAS CATEGORIZED AS 'HEAVY' BY ALL FLIGHTCREWS INTERVIEWED. REVIEW OF ATC TAPES CONFIRMED THOSE OBSERVATIONS. THE CONTROLLER WAS HANDLING TRAFFIC ON RWYS 35L, 35R, AND 31R, IN ADDITION TO RECEIVING INPUTS FROM THE DEPARTURE CONTROLLER. FIFTEEN MINUTES BEFORE THE INCURSION, THE CONTROLLER WAS GETTING UNCOMFORTABLE, AND INFORMED HIS SUPERVISOR THAT HE NEEDED A BREAK. THE SUPERVISOR LATER SAID THAT HE DID NOT NOTICE THAT THE CONTROLLER WAS GETTING OVERLOADED.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this incident to be: THE LOCAL CONTROLLER'S TASK OVERLOAD, WHICH LED HIM TO FORGET TO ISSUE APPROPRIATE TRAFFIC ADVISORIES AND TO LOSE HIS AWARENESS OF THE TRAFFIC SITUATION, AND THE FAILURE OF THE CONTROLLER'S SUPERVISOR TO RECOGNIZE THAT THE CONTROLLER HAD REACHED OR EXCEEDED HIS MAXIMUM THRESHOLD OF WORKLOAD

CAPABILITY AND TO TAKE APPROPRIATE ACTION.

Findings

Occurrence #1: NEAR COLLISION BETWEEN AIRCRAFT
Phase of Operation: LANDING - FLARE/TOUCHDOWN

Findings

1. (C) CONTROL TOWER SERVICE - IMPROPER - ATC PERSONNEL(LCL/GND/CLNC)
2. (C) EXCESSIVE WORKLOAD (TASK OVERLOAD) - ATC PERSONNEL(LCL/GND/CLNC)
3. (C) SUPERVISION - INADEQUATE - ATC PERSONNEL(SUPERVISOR)
4. (F) LIGHT CONDITION - DARK NIGHT

Factual Information

On February 27, 1995, at 2054 central standard time (CST), a McDonnell Douglas MD11, N1763, and a Swearingen SA227, N355AE, were involved in a runway incursion at the Dallas/Fort Worth International Airport (DFW), Texas. Neither aircraft sustained damage. The MD11 was operated as American Airlines Flight 2351 (AA2351) under 14 CFR Part 121, while the SA227 was operated as Lone Star Airlines Flight 1219 (LS1219) under 14 CFR Part 135. There were 10 crewmembers and 58 passengers on the MD11 and 2 crewmembers and 8 passengers on the SA227. None of the crewmembers or passengers sustained any injuries. Visual meteorological conditions prevailed with 15 miles visibility.

American Flight 2351 was "cleared to land on runway 35R" at 2052:56 CST; thereafter Lone Star Flight 1219 was instructed "taxi into position and hold on runway 35R" at 2053:03 CST. Both clearances were given by the same controller and acknowledged by the appropriate crews. Neither crew heard the others clearance. An examination of the radar data revealed that the MD11 flew over the SA227 at 2054:30, touching down approximately 1200 to 1500 feet beyond the approach threshold. The radar data also indicated that the vertical clearance between both aircraft was 35 feet.

The captain and first officer of the MD-11 had originated their duty day at DFW and were on a turn-around trip from O'Hare Airport, Chicago, Illinois. The crew of AA2351 had begun their duty day at 1200 CST and had been on duty approximately 9 hours.

The crew of LS1219, consisting of a captain and first officer, began their duty day at 1520 CST and had been on duty approximately 8 hours at the time of the occurrence. They had originated the flight at the Baxter County Regional Airport, Mountain Home, Arkansas, to DFW. LS1219 made 2 scheduled stops at Harrison, and Hot Springs, Arkansas prior to landing at DFW.

The Lone Star aircraft was put into position and hold on runway 35R, with the American Airlines aircraft on final approach, cleared to land on runway 35R. The tower cab supervisor noticed traffic on the runway, while viewing the Airport Surface Detection Equipment (ASDE) and alerted the local controller. The local controller could not recall the call sign for the MD11. He looked at the BRITE display for the identification; however, "the data had dropped off." In an attempt to issue emergency instructions the controller issued go around clearance 2054:33 to "AA1251 and AA1261," both non-existent flights (see enclosed group chairman's report).

The controller, assigned to runway 35R, 35L, and 31R, was working the Local Control East 35 (LCE-35) position, in the center tower, when he issued the instructions to both aircraft. During the period of time, 9 minutes prior to the incident, when he was in direct contact with both aircraft he was also handling a Sabliner that was preparing to takeoff from 35R. While

handling the Sabliner a 2 minute loss of communication occurred, he could not get acknowledgment following his issued clearance for takeoff.

Fifteen minutes prior to the incident the controller was queried by his supervisor, "is there anything I can do to help?" the controller responded that he needed a break and that he was getting uncomfortable. The controller reported that he was further confused when he noticed that AA901 was identified on the BRITE as Delta 262, this confusing situation was not reported to the supervisor. During an interview the controller stated that at some point as the work load increased he felt he needed a cab coordinator. Other events that the controller thought lead to the confusion were the interruptions by the "departure controller" coming into his ear who was attempting to clarify the erroneous tag up. A review of the enclosed transcripts revealed that the "departure controller" interrupted the controller involved in the incident 8 times in a 3 minute period.

During the investigation team's visit to the facility it was noted that the BRITE display was inconsistent. The identification of arriving aircraft was dropping off at various intervals, upto 1 mile from the runway threshold. No data tag drops occurred further than 1 mile from the runway threshold.

Interviews with both crews revealed that the MD11 crew had no knowledge that they had flown over the SA227. The crew of the SA227 realized that an aircraft was over flying them when they saw the "bright white lights of an approaching aircraft."

During interviews with the crew of LS1219 they reported that although they were aware that a "large aircraft" had flown over them, they did not notify the tower because they were given instructions to takeoff and they anticipated instructions from the tower to contact somebody. They proceeded to Mountain Home, Arkansas, and reported the event through their company.

The crew of LS1219 became concerned after being in position for departure for 2 to 3 minutes and hearing that another aircraft, AA2351 was on approach and was cleared to land on the same runway they were holding on. Due to his concern the captain reported that he turned his taxi lights so that they would be more visible. The Co-pilot attempted to contact the tower and inform them of LS1219's position on runway 35R; however, due to the volume of traffic he was unsuccessful, this attempted transmission was not on the ATC tape or transcription of the tape.

It was also noted during the interviews and in the subsequent review of the communications transcripts that the controller failed to comply with the requirements outlined in the Federal Aviation Administration order 7110.65H dated December 5, 1994 and General Notice RWA 4/89. This order requires that when issuing instructions for taxiing into position and hold the controller must advise aircraft of the existing traffic inbound to that runway. It also requires that approaching aircraft must be informed of aircraft cleared to taxi into position and hold. During the controller interview he acknowledged his awareness of this requirement and stated the reason he did not comply with FAA Order 7110.65H was due to his work load and "he

simply forgot."

During the interview with the controller he reported that landing traffic crossing from 31L to 35R and 35L increased his work load. LS1219 was issued instructions to taxi into position and hold until the incident. During this period he issued the following clearances: crossing runway instructions to 5 aircraft, told 6 aircraft to contact ground control, 2 aircraft to contact departure control, ground instructions to 1 aircraft, taxi instructions to 1 aircraft, 1 landing clearance, continue instructions to 1 aircraft, and completed 2 calls with departure radar. All these calls were required in addition to the communications ongoing with departure and approach aircraft to runways 31R and 35L

The crew of American Airlines flight 1032 witnessed the incident while in position for takeoff from runway 35L. During an interview the captain reported that initially the situation was "pretty normal" until they neared the runway. He realized they were going to depart from runway 35L and that traffic was also landing on that runway. He further reported that he felt the controller was "looking for relief from congestion," by side stepping the approaching aircraft from 35R to 35 L. The captain stated that it took 43 minutes from gate departure to takeoff. The crew of AA1032 stated that they felt "so uncomfortable" with the situation that he cocked the aircraft to the left, so he could see up the approach path, and turned on his cornering lights so that he would be more easily identified as being on the runway. The captain reported that the controller workload was "very heavy."

Being adjacent to LS1219 on runway 35R the crew of AA1032 observed the MD11 overly the Lone Star aircraft by about 50 feet and touchdown approximately 2,000 feet down the runway and exit via the high speed taxiway. He further reported that as he was looking at the aircraft on the adjacent runway, it was like a "black hole;" the only thing he could see on LS1219 was his rotating beacon.

A review of the DFW operations and physical aspects revealed the airport is serviced by 3 towers, east, west, and center; however, during the period of time of this incident only one tower was operational. The controllers reported that both east and west towers have lighting interference from the terminal buildings at the center of the airport and accordingly the controllers in the east and west towers transition the center tower. The facility did not utilize a cab coordinator at the time of the accident, they reported that the physical layout of the tower made it hard to accommodate one. The controllers and supervisors stated that a coordinator would have reduced the workload of the controller on duty. He would have taken all communications of the departure controller from the controller involved in the incident.

Pilot Information

Certificate:	Airline transport; Flight engineer	Age:	54, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical-w/ waivers/lim	Last FAA Medical Exam:	September 28, 1994
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	26137 hours (Total, all aircraft), 279 hours (Total, this make and model), 14487 hours (Pilot In Command, all aircraft), 75 hours (Last 90 days, all aircraft), 12 hours (Last 30 days, all aircraft), 4 hours (Last 24 hours, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	MCDONNELL DOUGLAS	Registration:	N1763
Model/Series:	MD11 MD11	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Transport	Serial Number:	48533
Landing Gear Type:	Retractable - Tricycle	Seats:	249
Date/Type of Last Inspection:	February 24, 1995 Continuous airworthiness	Certified Max Gross Wt.:	625000 lbs
Time Since Last Inspection:	8691 Hrs	Engines:	3 Turbo fan
Airframe Total Time:	8726 Hrs	Engine Manufacturer:	GE
ELT:	Not installed	Engine Model/Series:	CF680C2D-1F
Registered Owner:	AMERICAN AIRLINES	Rated Power:	62504 Lbs thrust
Operator:		Operating Certificate(s) Held:	Flag carrier (121)
Operator Does Business As:		Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Night/dark
Observation Facility, Elevation:	DFW ,562 ft msl	Distance from Accident Site:	
Observation Time:	20:50 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Scattered / 25000 ft AGL	Visibility	15 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	6 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	250°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	17°C / 12°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	CHICAGO (ORD)	Type of Flight Plan Filed:	IFR
Destination:	(DFW)	Type of Clearance:	IFR
Departure Time:	18:56 Local	Type of Airspace:	Class B

Airport Information

Airport:	DALLAS-FORT WORTH INTL DFW	Runway Surface Type:	Concrete
Airport Elevation:	562 ft msl	Runway Surface Condition:	Dry
Runway Used:	35R	IFR Approach:	None
Runway Length/Width:	11388 ft / 150 ft	VFR Approach/Landing:	Full stop

Wreckage and Impact Information

Crew Injuries:	10 None	Aircraft Damage:	None
Passenger Injuries:	58 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	68 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC): ELLIS, MATTHEW

Additional Participating Persons: JOSEPH F MANNO; WASHINGTON, DC

Original Publish Date: December 12, 1995

Last Revision Date:

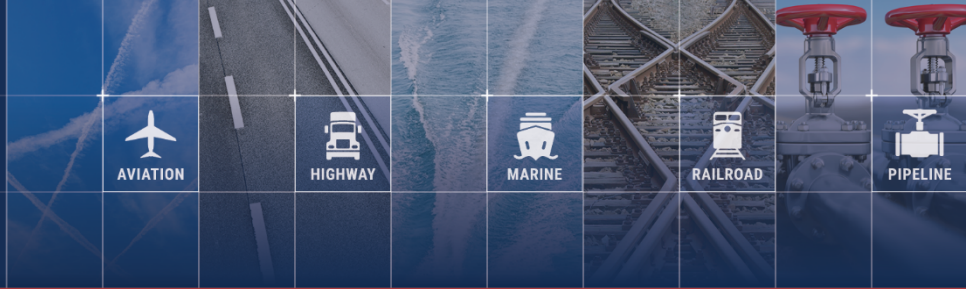
Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=19266>

The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant events in other modes of transportation—railroad, transit, highway, marine, pipeline, and commercial space. We determine the probable causes of the accidents and events we investigate, and issue safety recommendations aimed at preventing future occurrences. In addition, we conduct transportation safety research studies and offer information and other assistance to family members and survivors for each accident or event we investigate. We also serve as the appellate authority for enforcement actions involving aviation and mariner certificates issued by the Federal Aviation Administration (FAA) and US Coast Guard, and we adjudicate appeals of civil penalty actions taken by the FAA.

The NTSB does not assign fault or blame for an accident or incident; rather, as specified by NTSB regulation, “accident/incident investigations are fact-finding proceedings with no formal issues and no adverse parties ... and are not conducted for the purpose of determining the rights or liabilities of any person” (Title 49 *Code of Federal Regulations* section 831.4). Assignment of fault or legal liability is not relevant to the NTSB’s statutory mission to improve transportation safety by investigating accidents and incidents and issuing safety recommendations. In addition, statutory language prohibits the admission into evidence or use of any part of an NTSB report related to an accident in a civil action for damages resulting from a matter mentioned in the report (Title 49 *United States Code* section 1154(b)). A factual report that may be admissible under 49 *United States Code* section 1154(b) is available [here](#).



Aviation Investigation Final Report

Location:	DALLAS-FT WORTH, Texas	Incident Number:	FTW95IA126
Date & Time:	February 27, 1995, 20:54 Local	Registration:	N355AE
Aircraft:	FAIRCHILD SA227-AC	Aircraft Damage:	None
Defining Event:		Injuries:	10 None
Flight Conducted Under:	Part 135: Air taxi & commuter - Scheduled		

Analysis

ON THE NIGHT OF THE INCIDENT, THE LOCAL CONTROLLER CLEARED AMERICAN FLT 2351, N1763, TO LAND ON RWY 35R. SEVEN SECONDS LATER THE SAME CONTROLLER INSTRUCTED LONE STAR FLT 1219, N355AE, TO TAXI INTO POSITION AND HOLD ON RWY 35R. NEITHER CREW HEARD THE OTHER'S CLEARANCE, NOR WAS EITHER ADVISED OF THE OTHER'S POSITION AS REQUIRED. THE TOWER CAB SUPERVISOR NOTICED THE CONFLICT & ALERTED THE CONTROLLER. THE CONTROLLER COULD NOT RECALL THE CALL SIGN FOR AA2351, AND ISSUED GO-AROUND INSTRUCTIONS USING INCORRECT CALL SIGNS AA1251 & AA1261. AA2351 OVERFLEW LS1219 BY ABOUT 35 FT BEFORE TOUCHING DOWN. THE LOCAL FREQUENCY WAS VERY BUSY, AND THE CONTROLLER'S WORKLOAD WAS CATEGORIZED AS 'HEAVY' BY ALL FLIGHTCREWS INTERVIEWED. REVIEW OF ATC TAPES CONFIRMED THOSE OBSERVATIONS. THE CONTROLLER WAS HANDLING TRAFFIC ON RWYS 35L, 35R, AND 31R, IN ADDITION TO RECEIVING INPUTS FROM THE DEPARTURE CONTROLLER. FIFTEEN MINUTES BEFORE THE INCURSION, THE CONTROLLER WAS GETTING UNCOMFORTABLE, AND INFORMED HIS SUPERVISOR THAT HE NEEDED A BREAK. THE SUPERVISOR LATER SAID THAT HE DID NOT NOTICE THAT THE CONTROLLER WAS GETTING OVERLOADED.

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this incident to be: THE LOCAL CONTROLLER'S TASK OVERLOAD, WHICH LED HIM TO FORGET TO ISSUE APPROPRIATE TRAFFIC ADVISORIES AND TO LOSE HIS AWARENESS OF THE TRAFFIC SITUATION, AND THE FAILURE OF THE CONTROLLER'S SUPERVISOR TO RECOGNIZE THAT THE CONTROLLER HAD REACHED OR EXCEEDED HIS MAXIMUM THRESHOLD OF WORKLOAD CAPABILITY AND TO TAKE APPROPRIATE ACTION.

Findings

Occurrence #1: NEAR COLLISION BETWEEN AIRCRAFT
Phase of Operation: STANDING - ENGINE(S) OPERATING

Findings

1. (C) CONTROL TOWER SERVICE - IMPROPER - ATC PERSONNEL(LCL/GND/CLNC)
2. (C) EXCESSIVE WORKLOAD (TASK OVERLOAD) - ATC PERSONNEL(LCL/GND/CLNC)
3. (C) SUPERVISION - INADEQUATE - ATC PERSONNEL(SUPERVISOR)
4. (F) LIGHT CONDITION - DARK NIGHT

Factual Information

See narrative FTW95IA126A

Pilot Information

Certificate:	Airline transport; Flight instructor	Age:	27, Male
Airplane Rating(s):	Single-engine land; Multi-engine land	Seat Occupied:	Left
Other Aircraft Rating(s):	None	Restraint Used:	
Instrument Rating(s):	Airplane	Second Pilot Present:	Yes
Instructor Rating(s):	Airplane multi-engine; Airplane single-engine	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	October 29, 1994
Occupational Pilot:	Yes	Last Flight Review or Equivalent:	
Flight Time:	4800 hours (Total, all aircraft), 2300 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	FAIRCHILD	Registration:	N355AE
Model/Series:	SA227-AC SA227-AC	Aircraft Category:	Airplane
Year of Manufacture:		Amateur Built:	
Airworthiness Certificate:	Normal	Serial Number:	AC642
Landing Gear Type:	Retractable - Tricycle	Seats:	21
Date/Type of Last Inspection:	February 22, 1995 Continuous airworthiness	Certified Max Gross Wt.:	14500 lbs
Time Since Last Inspection:	35 Hrs	Engines:	2 Turbo prop
Airframe Total Time:	17725 Hrs	Engine Manufacturer:	ALLIED SIGNAL
ELT:	Installed, not activated	Engine Model/Series:	TPE331-11U
Registered Owner:	MCDONNELL DOUGLAS FINANCE CORP	Rated Power:	1050 Horsepower
Operator:	EXEC EXPRESS II	Operating Certificate(s) Held:	Commuter air carrier (135)
Operator Does Business As:	LONE STAR AIRLINES	Operator Designator Code:	EQGA

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	Condition of Light:	Night/dark
Observation Facility, Elevation:	DFW ,562 ft msl	Distance from Accident Site:	
Observation Time:	20:50 Local	Direction from Accident Site:	
Lowest Cloud Condition:	Scattered / 25000 ft AGL	Visibility	15 miles
Lowest Ceiling:	None	Visibility (RVR):	
Wind Speed/Gusts:	6 knots / None	Turbulence Type Forecast/Actual:	/
Wind Direction:	250°	Turbulence Severity Forecast/Actual:	/
Altimeter Setting:	29 inches Hg	Temperature/Dew Point:	17°C / 12°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	(DFW)	Type of Flight Plan Filed:	IFR
Destination:	MOUNTAIN HOME (BPK)	Type of Clearance:	IFR
Departure Time:	00:00 Local	Type of Airspace:	Class B

Airport Information

Airport:	DALLAS-FORT WORTH INTL DFW	Runway Surface Type:	Concrete
Airport Elevation:	562 ft msl	Runway Surface Condition:	Dry
Runway Used:	35R	IFR Approach:	None
Runway Length/Width:	11388 ft / 150 ft	VFR Approach/Landing:	Full stop

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	None
Passenger Injuries:	8 None	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	10 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC): ELLIS, MATTHEW

Additional Participating Persons: JOSEPH F MANNO; WASHINGTON , DC

Original Publish Date: December 12, 1995

Last Revision Date:

Investigation Class: [Class](#)

Note:

Investigation Docket: <https://data.nts.gov/Docket?ProjectID=19266>

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