



National Transportation Safety Board Aviation Accident Final Report

Location:	SHELTON, WA	Accident Number:	SEA99LA038
Date & Time:	03/02/1999, 1120 PST	Registration:	N194AC
Aircraft:	Sikorsky S-64E	Aircraft Damage:	None
Defining Event:		Injuries:	1 Fatal, 2 None

Flight Conducted Under: Part 133: Rotorcraft Ext. Load

Analysis

The pilot of the aero-logging helicopter had lowered a multiple-log load onto the landing site, hit the release switch to release the two choker cables, and then began to move away from the area. One of the choker lines momentarily failed to release, resulting in one end of one of the logs lifting into the air and then falling back to the ground. One of the ground crew members entered the landing area after the logs were initially lowered to the ground, but prior to the release of the second cable. When the end of the log lifted into the air and fell back to the ground, it fell on the crew member, inflicting fatal injuries. It was the opinion of some of the other crew members that the victim never noticed that the second cable had not yet released or that the end of the log was being lifted back into the air. According to Washington Administrative Code, Chapter 296-54, 'Logs shall be laid on the ground and the helicopter will be completely free of the choker(s) before workers approach the logs.'

Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: The failure of the victim to follow the procedure that required him to make sure that all choker lines had separated from the helicopter's release mechanism prior to entering the landing (collection area).

Findings

Occurrence #1: AIRFRAME/COMPONENT/SYSTEM FAILURE/MALFUNCTION
Phase of Operation: HOVER

Findings

1. (F) EXTERNAL LOAD CABLE/HOOK - SNAGGED

Occurrence #2: IN FLIGHT COLLISION WITH OBJECT
Phase of Operation: HOVER

Findings

2. (C) OBJECT - OTHER PERSON
3. (C) PROCEDURES/DIRECTIVES - NOT FOLLOWED - GROUND PERSONNEL

Factual Information

On March 2, 1999, approximately 1120 Pacific standard time, a log being positioned by an aero-logging Sikorsky S-64E helicopter, N194AC, hit a ground crew member when a choker line momentarily failed to release from the long-line. The helicopter, which was being operated near Shelton, Washington, by Erickson Air Crane under 14 CFR Part 133, was not damaged, nor was its crew injured. The ground crew member received fatal injuries. The helicopter, which was bringing logs into the landing (collection point), was being operated under VFR conditions at the time of the accident.

According to the aircrew, as the pilot-in-command started to move the aircraft away from the landing after lowering a multiple-log load to the ground, one of the two choker lines momentarily failed to separate from the long-line release mechanism. This resulted in the one end of one of the logs lifting back into the air and then falling to the ground. According to witnesses, one member of the ground crew, who was positioned separately from the others, ran into the collection area immediately after the logs initially touched the ground. When one end of the subject log lifted into the air and dropped back to the ground, it landed on the crew member, inflicting fatal injuries. An inspection of the release mechanism did not reveal why the line failed to immediately release. According to other ground crew members, a representative of Erickson Air Crane, and the Washington Safety Compliance Inspector who responded to the scene, occasionally a choker line will momentarily hang up during the release sequence. It could not be determined why the crew member had entered the landing prior to both choker lines separating from the release, but some of the other ground crew members felt that the victim had simply failed to notice that the second choker line had not yet released. The witnesses also felt that since the victim ran into the landing with his head down, he probably did not see the end of the log being lifted back into the air.

During the investigation, it was determined that the victim had worked as a member of the aero-logging ground crew for the same company for about the last seven years (except for seasonal layoffs). During those years, he had performed duties both at the location where the logs were lifted out after being felled, and at the landings where the logs were decked (stacked). It was also noted that Washington Administrative Code (WAC), Chapter 296-54 (Safety Standards for Logging Operation), Section 296-54-559, Item 16, states that "Logs shall be laid on the ground and the helicopters will be completely free of the choker(s) before workers approach the logs."

Pilot Information

Certificate:	Commercial	Age:	45, Male
Airplane Rating(s):	None	Seat Occupied:	Left
Other Aircraft Rating(s):	Helicopter	Restraint Used:	Seatbelt
Instrument Rating(s):	None	Second Pilot Present:	Yes
Instructor Rating(s):	None	Toxicology Performed:	No
Medical Certification:	Class 1 Valid Medical--no waivers/lim.	Last FAA Medical Exam:	03/30/1998
Occupational Pilot:		Last Flight Review or Equivalent:	
Flight Time:	16800 hours (Total, all aircraft), 1500 hours (Total, this make and model), 10000 hours (Pilot In Command, all aircraft), 45 hours (Last 90 days, all aircraft), 5 hours (Last 30 days, all aircraft)		

Aircraft and Owner/Operator Information

Aircraft Make:	Sikorsky	Registration:	N194AC
Model/Series:	S-64E S-64E	Aircraft Category:	Helicopter
Year of Manufacture:		Amateur Built:	No
Airworthiness Certificate:	Transport	Serial Number:	64017
Landing Gear Type:	Tricycle	Seats:	3
Date/Type of Last Inspection:	02/20/1999, AAIP	Certified Max Gross Wt.:	42000 lbs
Time Since Last Inspection:	14 Hours	Engines:	2 Turbo Shaft
Airframe Total Time:	7236 Hours	Engine Manufacturer:	P&W
ELT:		Engine Model/Series:	JFTD-12-4A
Registered Owner:	ERICKSON AIR CRANE CO. LLC	Rated Power:	4500 hp
Operator:	ERICKSON AIR CRANE CO. LLC	Operating Certificate(s) Held:	
Operator Does Business As:	ERICKSON AIR CRANE	Operator Designator Code:	

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual Conditions	Condition of Light:	Day
Observation Facility, Elevation:	, 0 ft msl	Distance from Accident Site:	0 Nautical Miles
Observation Time:	0000	Direction from Accident Site:	0°
Lowest Cloud Condition:	Unknown / 0 ft agl	Visibility	5 Miles
Lowest Ceiling:	Overcast / 0 ft agl	Visibility (RVR):	0 ft
Wind Speed/Gusts:	Light and Variable /	Turbulence Type Forecast/Actual:	/
Wind Direction:		Turbulence Severity Forecast/Actual:	/
Altimeter Setting:		Temperature/Dew Point:	4° C
Precipitation and Obscuration:			
Departure Point:		Type of Flight Plan Filed:	None
Destination:		Type of Clearance:	None
Departure Time:	1110 PST	Type of Airspace:	Class G

Wreckage and Impact Information

Crew Injuries:	2 None	Aircraft Damage:	None
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	1 Fatal	Aircraft Explosion:	None
Total Injuries:	1 Fatal, 2 None	Latitude, Longitude:	

Administrative Information

Investigator In Charge (IIC):	ORRIN K ANDERSON	Report Date:	06/21/2000
Additional Participating Persons:	CHUCK SICOTTE; RENTON, WA		
Publish Date:			
Investigation Docket:	NTSB accident and incident dockets serve as permanent archival information for the NTSB's investigations. Dockets released prior to June 1, 2009 are publicly available from the NTSB's Record Management Division at pubinquiry@ntsb.gov , or at 800-877-6799. Dockets released after this date are available at http://dms.nts.gov/pubdms/ .		

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