Aviation Investigation Final Report

Location:	Crandall, Texas	**Accident Number:**	CEN24LA009
Date & Time:	October 9, 2023, 19:25 Local	**Registration:**	D-OGBL
Aircraft:	Ballonbau Wörner GmbH NL-STU/1000	**Aircraft Damage:**	Substantial
Defining Event:	Collision during takeoff/land	**Injuries:**	2 Serious
Flight Conducted Under:	Part 91: General aviation - Air race/show		

Analysis

The pilots were competing in a multi-day, cross-country balloon race. The pilot-in-command stated that they were in a planned descent when they heard gunfire on the ground and ahead of their hydrogen balloon. When interviewed, the pilot-in-command stated that that he never heard any bullets passing by or impacting the balloon, nor did he observe any tracer rounds associated with the gunfire. The flight crew decided to continue the descent and land due to their concerns of flying the balloon at night, at a low altitude, with gunfire activity at the surface.

As the balloon descended toward a lighted power substation, the flight crew attempted to jettison ballast to slow the balloon's decent and clear power lines; however, about 50-100 ft above the ground, the pilot-in-command determined that the balloon would not clear the power lines and he fully opened the balloon's gas vent to rapidly release the hydrogen and descend rapidly to the surface. The balloon's basket impacted the ground before the envelope blew into the power lines creating a spark and an explosion of the remaining hydrogen gas. The balloon was destroyed during the hydrogen explosion and postaccident ground fire. Both flight crew members sustained serious injuries during the ground impact, explosion, and ground fire. The pilot stated that there were no preimpact mechanical malfunctions or failures that would have precluded normal operation.

Probable Cause and Findings

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

The pilot-in-command’s inadequate descent planning that resulted in the balloon contacting power lines shortly after landing and an explosion of hydrogen gas.

Findings

Personnel issues	(general) - Pilot
Aircraft	Descent/approach/glide path - Incorrect use/operation
Environmental issues	Wire - Ability to respond/compensate
Environmental issues	Wire - Effect on equipment

Factual Information

History of Flight

Landing	Collision during takeoff/land (Defining event)
Post-impact	Explosion (post-impact)
Post-impact	Fire/smoke (post-impact)

Pilot Information

Certificate:	Commercial	**Age:**	52,Male
Airplane Rating(s):	None	**Seat Occupied:**	None
Other Aircraft Rating(s):	Balloon	**Restraint Used:**	None
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	August 30, 2023
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	December 4, 2022
Flight Time:	(Estimated) 1994 hours (Total, all aircraft), 1144 hours (Total, this make and model), 1994 hours (Pilot In Command, all aircraft), 91 hours (Last 90 days, all aircraft), 20 hours (Last 30 days, all aircraft), 24 hours (Last 24 hours, all aircraft)		

Pilot Information

Certificate:	Commercial	**Age:**	60,Male
Airplane Rating(s):	None	**Seat Occupied:**	None
Other Aircraft Rating(s):	Balloon	**Restraint Used:**	None
Instrument Rating(s):	None	**Second Pilot Present:**	Yes
Instructor Rating(s):	None	**Toxicology Performed:**	
Medical Certification:	Class 2 With waivers/limitations	**Last FAA Medical Exam:**	April 29, 2023
Occupational Pilot:	No	**Last Flight Review or Equivalent:**	
Flight Time:	(Estimated) 952 hours (Total, all aircraft), 130 hours (Total, this make and model)		

Aircraft and Owner/Operator Information

Aircraft Make:	Ballonbau Wörner GmbH	**Registration:**	D-OGBL
Model/Series:	NL-STU/1000	**Aircraft Category:**	Balloon
Year of Manufacture:	2020	**Amateur Built:**	
Airworthiness Certificate:	Balloon	**Serial Number:**	1110
Landing Gear Type:	None	**Seats:**	
Date/Type of Last Inspection:	June 3, 2023 Annual	**Certified Max Gross Wt.:**	2557 lbs
Time Since Last Inspection:		**Engines:**	
Airframe Total Time:	101 Hrs at time of accident	**Engine Manufacturer:**	
ELT:	C126 installed, not activated	**Engine Model/Series:**	
Registered Owner:	Global Ballooning Sl d.o.o.	**Rated Power:**	
Operator:	Global Ballooning Sl d.o.o.	**Operating Certificate(s) Held:**	None

Meteorological Information and Flight Plan

Conditions at Accident Site:	Visual (VMC)	**Condition of Light:**	Dusk
Observation Facility, Elevation:	HQZ,447 ft msl	**Distance from Accident Site:**	7 Nautical Miles
Observation Time:	19:50 Local	**Direction from Accident Site:**	332°
Lowest Cloud Condition:	Clear	**Visibility**	10 miles
Lowest Ceiling:	None	**Visibility (RVR):**	
Wind Speed/Gusts:	5 knots /	**Turbulence Type Forecast/Actual:**	None / None
Wind Direction:	160°	**Turbulence Severity Forecast/Actual:**	N/A / N/A
Altimeter Setting:	29.84 inches Hg	**Temperature/Dew Point:**	23°C / 12°C
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Albuquerque, NM (ABQ)	**Type of Flight Plan Filed:**	VFR
Destination:	Crandall, TX	**Type of Clearance:**	None
Departure Time:		**Type of Airspace:**	Class G

Wreckage and Impact Information

Crew Injuries:	2 Serious	**Aircraft Damage:**	Substantial
Passenger Injuries:	N/A	**Aircraft Fire:**	On-ground
Ground Injuries:	N/A	**Aircraft Explosion:**	On-ground
Total Injuries:	2 Serious	**Latitude, Longitude:**	32.64716,-96.46716(est)

Administrative Information

Investigator In Charge (IIC):	Fox, Andrew
Additional Participating Persons:	Fritz Bayer; Federal Aviation Administration - North Texas FSDO; Irving, TX
Original Publish Date:	June 28, 2024
Last Revision Date:	
Investigation Class:	Class 4
Note:	The NTSB did not travel to the scene of this accident.
Investigation Docket:	https://data.ntsb.gov/Docket?ProjectID=193221