



# National Transportation Safety Board Aviation Accident Final Report

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<b>Location:</b>	Kendall, KS	<b>Accident Number:</b>	DEN06LA016
<b>Date &amp; Time:</b>	10/02/2005, 1619 MST	<b>Registration:</b>	N96YD
<b>Aircraft:</b>	Abruzzo Grom-1	<b>Aircraft Damage:</b>	Minor
<b>Defining Event:</b>		<b>Injuries:</b>	1 Serious, 1 None

**Flight Conducted Under:** Part 91: General Aviation - Air Race/Show

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## Analysis

The balloon, USA-1, was participating in the Gordon Bennett race. It had been aloft for 22 hours and had traveled some 350 to 400 miles. Cruising about 35 mph in "smooth air" at 7,000 feet msl, it encountered "mid-afternoon dry thermals" and a "sudden and unexpected downdraft." The dry thermals forced the balloon into an "extreme" and uncontrolled descent. The variometer "pegged" at 1,500 feet per minute descent. The crew attempted to arrest the descent rate by throwing ballast overboard, but was unsuccessful and the balloon collided with power lines. The entangled gondola severed the power lines and the balloon ascended rapidly. As it ascended, the gondola "pitched violently as much as 60 degrees" and the pilot fell out at a height approximately 30 to 40 feet. The balloon ascended with the copilot still on board. Using a satellite telephone, she notified the chase crew and gave them the location of the accident. The balloon ascended to 14,000 feet msl before the copilot was able to "[execute] a controlled descent." The balloon hit the ground hard approximately 8 miles from the accident site.

## Probable Cause and Findings

The National Transportation Safety Board determines the probable cause(s) of this accident to be: the downdraft forcing the balloon into the power lines. A contributing factor was the clear air turbulence and the power lines.

## Findings

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Occurrence #1: IN FLIGHT COLLISION WITH OBJECT  
Phase of Operation: DESCENT - UNCONTROLLED

### Findings

1. (F) WEATHER CONDITION - TURBULENCE, CLEAR AIR
2. (C) WEATHER CONDITION - DOWNDRAFT
3. AIRCRAFT CONTROL - NOT POSSIBLE - PILOT IN COMMAND
4. (F) OBJECT - WIRE, TRANSMISSION

## Factual Information

On October 2, 2005, at 1619 mountain standard time, an Abruzzo Grom-1 balloon, N96YD, registered to Peak Express Balloon, Inc., and piloted by a commercial pilot, sustained minor damage when it struck power lines near Kendall, Kansas. Visual meteorological conditions prevailed at the time of the accident. The personal cross-country flight was being conducted under Title 14 CFR Part 91. The pilot was seriously injured. The copilot was not injured. The flight originated at Albuquerque, New Mexico, on October 1, 2005, approximately 1846. The balloon pilots were participating (and were the defending champions) in the (49th annual) 2005 Coupe Aeronautique Gordon Bennett International Gas Balloon Race.

The balloon, USA-1, was one of 26 balloons that took off from Albuquerque's Balloon Fiesta Park: 14 balloons were in the Gordon Bennett race, 12 balloons were in the America's Challenge gas balloon race. The balloon that traveled the greatest distance was the winner of the race. USA-1 had been aloft for 22 hours, and had traversed some 350 to 400 miles when the accident occurred.

The pilot stated that the balloon was cruising about 35 mph in "smooth air" at 7,000 feet mean sea level (msl) when it encountered "mid-afternoon dry thermals" and a "sudden and unexpected downdraft." The dry thermals forced the balloon into an uncontrolled descent. The crew attempted to arrest the balloon's descent rate by throwing ballast overboard. The pilot said that the uncontrolled descent was "extreme" and that the variometer was "pegged" at 1,500 feet per minute descent rate. His attempt to arrest the descent was unsuccessful and the balloon collided with the "upper most wire of a set of power lines" along the south side of a farm road near Lakin, Kansas. The entangled gondola severed the power lines and the balloon ascended rapidly. As the balloon ascended, the gondola "pitched violently as much as 60 degrees" and the pilot fell out of the gondola. He hit the ground after falling from a height approximately 30 to 40 feet.

The balloon ascended with the copilot still on board. Using a satellite telephone, the copilot notified the chase crew and gave them the location of the accident. The balloon ascended to 14,000 feet msl before she was able to "[execute] a controlled descent." The balloon hit the ground hard approximately 8 miles from the accident site, near Lakin, Kansas. About the same time, power monitors for the Pioneer Electric Company detected a fault and a crew was dispatched. Along with fire and rescue crews, they located the pilot about 300 feet east of the intersection of Roads 35 and Y in Hamilton County, near U.S. Highway 50. He had been unconscious for about 1 hour, 30 minutes, and was found walking towards a farmhouse.

The pilot said, "Collectively, we have flown dozens of cross-country gas-balloon flights, and the sudden onset and severity of this weather phenomenon was unprecedented in our collective experience." He suffered a fractured pelvis, displaced ribs, and a shattered forearm and wrist.

## Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	42, Male
<b>Airplane Rating(s):</b>	None	<b>Seat Occupied:</b>	Unknown
<b>Other Aircraft Rating(s):</b>	Balloon	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Powered-Lift	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 3 Without Waivers/Limitations	<b>Last Medical Exam:</b>	07/01/2005
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	05/01/2004
<b>Flight Time:</b>	1827 hours (Total, all aircraft), 910 hours (Total, this make and model), 1827 hours (Pilot In Command, all aircraft), 39 hours (Last 90 days, all aircraft)		

## Co-Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	60, Female
<b>Airplane Rating(s):</b>	None	<b>Seat Occupied:</b>	
<b>Other Aircraft Rating(s):</b>	Balloon	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	None	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	Class 2 None	<b>Last Medical Exam:</b>	12/01/1984
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	
<b>Flight Time:</b>			

## Co-Pilot Information

<b>Certificate:</b>	Commercial	<b>Age:</b>	60, Female
<b>Airplane Rating(s):</b>	None	<b>Seat Occupied:</b>	Unknown
<b>Other Aircraft Rating(s):</b>	Balloon	<b>Restraint Used:</b>	
<b>Instrument Rating(s):</b>	None	<b>Second Pilot Present:</b>	Yes
<b>Instructor Rating(s):</b>	Powered-Lift	<b>Toxicology Performed:</b>	No
<b>Medical Certification:</b>	None None	<b>Last Medical Exam:</b>	
<b>Occupational Pilot:</b>		<b>Last Flight Review or Equivalent:</b>	03/01/2004
<b>Flight Time:</b>	1850 hours (Total, all aircraft), 395 hours (Total, this make and model), 1522 hours (Pilot In Command, all aircraft), 20 hours (Last 90 days, all aircraft)		

## Aircraft and Owner/Operator Information

Aircraft Manufacturer:	Abruzzo	Registration:	N96YD
Model/Series:	Grom-1	Aircraft Category:	Balloon
Year of Manufacture:		Amateur Built:	Yes
Airworthiness Certificate:	Experimental	Serial Number:	798
Landing Gear Type:	None	Seats:	2
Date/Type of Last Inspection:	08/01/2005, Conditional	Certified Max Gross Wt.:	2438 lbs
Time Since Last Inspection:	109.32 Hours	Engines:	0
Airframe Total Time:	711.1 Hours	Engine Manufacturer:	
ELT:	Installed, not activated	Engine Model/Series:	Gas Balloon
Registered Owner:	Peak Express Balloon, INC.	Rated Power:	
Operator:	Richard Abruzzo	Air Carrier Operating Certificate:	None

## Meteorological Information and Flight Plan

Observation Facility, Elevation:	GCK, 2890 ft msl	Observation Time:	1654 CST
Distance from Accident Site:	49 Nautical Miles	Condition of Light:	Day
Direction from Accident Site:	75°	Conditions at Accident Site:	Visual Conditions
Lowest Cloud Condition:	Clear	Temperature/Dew Point:	34° C / 9° C
Lowest Ceiling:	None	Visibility	10 Miles
Wind Speed/Gusts, Direction:	25 knots/ 29 knots, 180°	Visibility (RVR):	
Altimeter Setting:	29.83 inches Hg	Visibility (RVV):	
Precipitation and Obscuration:	No Obscuration; No Precipitation		
Departure Point:	Albuquerque, NM	Type of Flight Plan Filed:	Company VFR
Destination:		Type of Clearance:	Unknown
Departure Time:	1846 MST	Type of Airspace:	

## Airport Information

Airport:	Ulysses Airport (ULS)	Runway Surface Type:	
Airport Elevation:	3207 ft	Runway Surface Condition:	
Runway Used:	NA	IFR Approach:	Unknown
Runway Length/Width:		VFR Approach/Landing:	Unknown

## Wreckage and Impact Information

Crew Injuries:	1 Serious, 1 None	Aircraft Damage:	Minor
Passenger Injuries:	N/A	Aircraft Fire:	None
Ground Injuries:	N/A	Aircraft Explosion:	None
Total Injuries:	1 Serious, 1 None		

## Administrative Information

**Investigator In Charge (IIC):** Arnold W Scott **Adopted Date:** 04/25/2006

**Additional Participating Persons:** John Parsons; FAA Flight Standards District Office; Wichita, KS  
J.D. Huss; FAA Flight Standards District Office; Albuquerque, NM

**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 [pubinq@ntsb.gov](mailto:pubinq@ntsb.gov), or at 800-877-6799. Dockets released after this date are available at <http://dms.nts.gov/pubdms/>.

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