



U.S. Department
of Transportation

**Federal Aviation
Administration**

Office of Accident Investigation & Prevention

800 Independence Ave., SW.,
Washington, DC 20591

January 5, 2017

Mr. William English; Investigator-in-charge
Office of Aviation Safety (AS-10)
National Transportation Safety Board
490 L'Enfant Plaza, SW
Washington, DC 20594

Dear Mr. English:

During the NTSB's Public Hearing this past December on the Texas balloon accident, I was asked to have FAA provide information to you regarding the number of balloons that are operating commercially in the United States and also have the capability of carrying 12 or more passengers. This memorandum conveys the requested information:

About 134 balloons are capable of carrying 12 or more people, from the population of the 4,390 balloons in the FAA registry. However, about 15 of those 134 balloons are likely limited to less than 12 people due to their operational environment. Balloons must have at least 250,000 cubic feet of volume in order to generate enough lift for 12 people under typical operating conditions, even if the gondola could hold more people

Also, we found that 11 balloons are capable of lifting 20 or more passengers. These balloons have an envelope volume of 350,000 cubic feet or greater. Of these 11 balloons, four are likely to be carrying less than 20 passengers given operating environment, and *two* have volumes of 425,000 and 500,000 cubic feet respectively with the capability of *lifting 24 or more passengers*. We are also aware of one balloon with a gondola that can fit 32 passengers plus 2 crew; however, the operator of this balloon/gondola does not fly more than 24 to 26 passengers due to its environment and company operations.

The methodology used for this information is provided in the one-page attachment. I hope this information is responsive to your request. Please contact me should you have any further questions regarding this matter. I can be reached by email at Jeffrey.guzzetti@faa.gov, or telephone at (202) 267-7788.

Sincerely,

Jeffrey Guzzetti
Manager, Accident Investigation Division (AVP-100)

Enc: Methodology

Methodology for NTSB Request Regarding Commercial Balloons

- A full listing of all N-registered balloons was retrieved from the FAA's aircraft registry on December 16, 2016. This listing included each balloon's make and model number of the envelope, as well as the state of registry.
- The gondola -- or basket -- that is attached to the envelope is not registered as part of the aircraft, nor does FAA have a separate tracking or registry of them. It is considered a separate component. Therefore, an analysis of the envelope type and volume is the only method to accurately determine which registered balloon is capable of lifting 12 or more passengers.
- From this listing, all experimental balloons and special shaped balloons were removed for the purposes of this analysis, since these balloons are not used for commercial rides.
- The remaining certified models of balloons were then categorized by make and model in order to identify each envelope's volume, since volume is the primary factor in lift capability.
- Balloons must have at least 250,000 cubic feet of volume in order to generate enough lift for 12 people, even if the gondola could hold more people. Only 134 balloons with this volume or greater were found in the FAA registry.
- Working with representatives of the Balloon Federation of America (BFA), we also factored in the likely location of the balloon's operation, as well as any other specific knowledge of the operator of certain balloons. About 15 balloons in the registry that have the capability to lift 12 or more people were likely doing so due to the operator's restrictions or the meteorological conditions of operating location of the balloon during the ride season.
- Balloons that have an envelope volume of 350,000 cubic feet or greater were also identified from the registry. These balloons would be capable of lifting 20 or more passengers. Eleven balloons of this size were identified. Of these 11 balloons, two have volumes of 425,000 and 500,000 cubic feet respectively with the capability of lifting 24 or more passengers. We are aware of only one balloon with a gondola that can fit 32 passengers plus 2 crew; however, the operator of this balloon/gondola does not fly more than 24 to 26 passengers due to its environment and company operations.