

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
RENTON, WASHINGTON 98057-3356

In the matter of the petition of

Halliburton Energy Services

for exemption from the *Gulfstream Model G550
Airplane Operating Manual*, Supplement
G550-OMS-1

Regulatory Docket No. FAA-2012-0290

DENIAL OF EXEMPTION

By letter dated March 8, 2012, Mr. Joseph Fletchall, Chief Pilot, Halliburton Energy Services, 17555 J.F.K. Blvd., Suite 110, Houston, Texas, 77032, petitioned for exemption from Title 14, Code of Federal Regulations (14 CFR), 25.807(a)(3), (g)(2) and (3), and (i)(2); and 25.807 in its entirety, as amended by Amendment 25-98. In response to a request by the FAA for clarification, regarding the specific regulations from which Halliburton Energy Services petitioned for an exemption, Mr. Ted Denzler identified, via e-mail dated April 5, 2012, the *Gulfstream Model G550 Airplane Operating Manual*, Supplement G550-OMS-1. Halliburton Energy Service's goal is to eliminate the requirement to have a person dedicated as an Emergency Evacuation Crewmember on their Gulfstream Model GV-SP, G500, and G550 airplanes.

The petitioner requests relief from the following:

Gulfstream Model G550 Airplane Operating Manual, Supplement G550-OMS-1, which details the Evacuation Crewmember Training requirements as quoted in the petitioner's supporting information, below.

The petitioner supports its request with the following information:

This section quotes the pertinent information from the petitioner's request, as well as the subsequent information (identified as "NOTE:") provided via e-mail dated April 5, 2012. The complete petitioner text is available at the Department of Transportation's Federal Docket Management System, on the Internet at <http://regulations.gov>, in Docket No. FAA-2012-0290.

The Halliburton Energy Services flight department is a FAR Part 91 operation. We regularly travel to destinations world-wide. Our passengers consist of top company executives, to include but not limited to, the members of the Board of Directors, C.E.O., Presidents, Vice-Presidents, Directors, Managers, etc., and their invited guests. Our passenger's vary the use of each aircraft based on the mission profile and aircraft availability and are not assigned to, nor do they exclusively use, a particular aircraft.

At the time the GV was certified in 1997, the four emergency exits were considered by the FAA to be equivalent to two larger Type III exits. The FAA, however, asked Gulfstream to redesign the G550's emergency exit system to include the requirement for a Type III exit. An Equivalent Level of Safety, (ELOS), was granted which allowed the G550 to be certified without the addition of a Type III exit, but requires an "Emergency Evacuation Crewmember" on all flights with (10) or more passengers. For flights with less than 10 passengers, the FAA restriction does not exist, and there is no requirement for an evacuation crewmember. This FAA requirement exists for N registered aircraft only.

The G-550 Operating Manual Supplement, G550-OMS-1 details the crewmember training requirements.

G550-OMS-01 Revision 2, Page 2. EVACUATION CREWMEMBER TRAINING REQUIREMENTS dated November 20, 2008 States:

EVACUATION CREWMEMBER TRAINING

General

NOTE: It is not required that the evacuation crewmember be trained in any other flight attendant functions other than those listed in this supplement.

1. A crewmember trained in evacuation is an additional required crewmember for all flights having 10 or more passengers.
2. The required pilot and co-pilot cannot serve this function.
3. The evacuation crewmember must be trained in the recommended methods for evacuating through the Gulfstream elliptical exits.
4. The evacuation crewmember must be trained in the procedures for directing passenger flow to the available exits to prevent someone who may not fit through, or may have other personal disabilities which may preclude them from using the elliptical exit, from blocking it so that others may utilize the exit.

The source of the data used in this supplement is the FAA-approved Gulfstream Engineering Report number GVSP-GER-6111, GV-SP Evacuation Crewmember Training Requirements, Revision C, dated November 19, 2008.

The Halliburton Aviation Department believes that based on the reasons stated below, that an Equivalent Level of Safety exists to justify operations without the required *Emergency Evacuation Crewmember* as mandated by G-550 Operating Manual Supplement, G550-OMS-1, *Applicable Regulations: FAR 25.807(a) (3): 25.807(g) (2) and (3); and 25.807(1) (2). Emergency Exits and FAR 25.807 at Amendment 25-98, Description of compensating design features or alternative standards which allow the granting of the ELOS (including design changes, limitations or equipment needed for equivalency).*

NOTE: The FAA acknowledges that Halliburton Energy Services clarified they are seeking an exemption from the G550 operating manual, Supplement G550-OMS-1, via an e-mail dated April 5, 2012. This e-mail also provided an updated public-interest statement, which reads as follows:

Being an energy services company, we always look for ways to reduce our costs however large or small. The elimination of the required emergency evacuation crewmember will reduce our operating costs. The costs associated with that crewmember include, but are not limited to, lodging, meals, uniforms, salary and also travel expenses for business trips as well as training. In the situation where we use company personnel to fill the role of the evacuation crewmember, we lose the use of that person in their full time capacity thus requiring overtime paid to other employees or the temporary use of contract labor to fill the void. Any reduction in our operating costs reduces the cost of our services which will benefit the public as a whole no matter how great or small.

We are asking for a full exemption from the requirement of an *Emergency Evacuation Crewmember* as required by the above listed documents, based on the following reasons:

1. The excellent history and operating record of the Halliburton Energy Services flight department.
2. Halliburton Energy Services company aircraft and the aircraft safety equipment are strictly maintained in accordance with the manufacturers CMP, (Computerized Maintenance Program), system.
3. Our G-V and G-550 aircraft have identical interior seating arrangements and all three of our aircraft have identical evacuation exits and doors. Since our passengers utilize all of the aircraft, they are more familiar with the layout and the evacuation procedures due to repetition, thus providing better egress ability from the G550 as well as the other aircraft. In comparison, no actual flight time requirements exist for an Emergency Evacuation Crewmember. A person may theoretically be fully trained in accordance with G550-OMS-1 and function as the

required crewmember having never flown in an aircraft, have limited time in the aircraft, or can serve in the required capacity up to one year from their last training date.

4. Halliburton Energy Services flight crews are consistent in the use of thorough safety briefings given to the passengers prior to each flight. Verbal and / or electronic safety briefings are given to the passengers for each flight and include, but are not limited to, briefings for take-off, landing and extended overwater flight. These safety briefings include the required information for operation of the emergency exits, (corporate and commercial passengers are given the responsibility for the operation of the emergency exits on thousands of flights daily), use of emergency safety equipment and the evacuation from the aircraft. Passenger safety briefing cards are located in all of our aircraft and are customized for each aircraft.
5. As stated above in the *EVACUATION CREWMEMBER TRAINING REQUIREMENTS* line 4, “*The evacuation crewmember must be trained in the procedures for directing passenger flow to the available exits to prevent someone who may not fit through, or may have other personal disabilities which may preclude them from using the elliptical exit, from blocking it so that others may utilize the exit*”. The concern of an exit being blocked is obviously a concern in any Gulfstream aircraft from the G-I through the G-550 whether there is more than or less than 10 passengers, yet there is no requirement for any aircraft other than the GV-SP / G500 / G550. To dispel this concern, an analysis / review of all accidents and incidents involving Gulfstream corporate aircraft, (G-I through G550), using F.A.A., N.T.S.B., Air Safety Network websites and internet searches was done and revealed the following:

Seventy-six records were found. Of these only thirty-five appeared to be accidents or incidents in which there was, or possibly was, some type of evacuation. For the purpose of this analysis, the term evacuation shall include, but not be limited to, passengers and / or crew exiting the aircraft by any exit while the aircraft was at a location other than a designated aircraft parking ramp, (i.e. E.M.A.S. area, runway, taxiway, off airport, etc.).

Of these thirty-five records there were only seven accidents / incident records found in which there were (10) or more passengers aboard the aircraft. All involved Gulfstream I turbo-prop aircraft. Of these seven, only one accident resulted in a fatality to a passenger.

1990: A U.S. registered Gulfstream I operated by Rowan Drilling Co, crashed on take-off in Houston, Texas. The (2) pilots and (1) of (13) passengers received fatal injuries. However, in this accident the passenger was actually a non-company employee, a commercial pilot, who was "hitchhiking" aboard the aircraft to return to his home town. He was located in the cockpit jump seat at the time of the crash and killed instantly with the pilot and co-pilot. All (12) passengers in the cabin survived.

There were sixteen records found that involved aircraft with (1) to (9) passengers aboard. Of these accidents / incidents, four involved Gulfstream I aircraft; five involved Gulfstream II aircraft; one involved a Gulfstream III aircraft; four involved Gulfstream IV aircraft; one involved a Gulfstream V aircraft; and one involved a Gulfstream VSP aircraft. Of these sixteen, only three resulted in fatalities. They are:

1974: A non-U.S. registered Gulfstream II operated by the Toga Government, crashed on approach to Lome, Toga. (3) crewmembers received fatal injuries and all (3) passengers survived after evacuating the aircraft.

2003: A non-U.S. registered Gulfstream I operated by African Commuter Services and leased by the Kenyan Government, struck power lines and crashed in Busia, Kenya after an attempted overweight takeoff. (2) of (3) crewmembers and (1) of (9) passengers received fatal injuries. (1) crewmember and (8) passengers evacuated the aircraft. A photograph of the crash shows that in all probability the crew and passenger received fatal injuries and were incapacitated by the crash sequence and not due to the inability to exit the aircraft.

2012: A U.S. registered Gulfstream IV, operated by the Congo Government, over ran the runway in Bukavu, D.R. of Congo, and crashed. (2) crewmembers and (2) of (9) passengers received fatal injuries. (7) passengers evacuated the aircraft. Photographs of the crash indicate that the emergency exits were opened from the inside by the passengers. Photographs of the crash also show that in all probability the (2) passengers that received fatal injuries were incapacitated by the crash sequence and not due to the inability to exit the aircraft. (2) farmers on the ground also received fatal injuries from the aircraft.

Twelve records were found involving accidents / incidents involving no passengers or an unknown number of passengers. There were no fatalities to passengers or crew involved.

No record could be found that indicated in any way that a crewmember or passenger was unable to exit an aircraft due to an elliptical emergency exit being blocked by a passenger who was unable to exit the aircraft through that emergency exit.

Accidents in which there was no evacuation required or no evacuation possible, (i.e. taxi accident, controlled flight into terrain, loss of aircraft control - en-route, shoot down, etc.) were not included in the analysis.

Three incidents, all occurring in 1982, involving G-159C commuter aircraft with more than (10) passengers were not included in the analysis. They were intentionally omitted as incomparable due to additional exits being added to these aircraft during the lengthening process of the fuselage to accommodate more passengers. In all these incidents though, there were no fatalities to passengers or crew.

6. The G550 aircraft received FAA certification in August 2003 and validation from the European Aviation Safety Agency (EASA) in March 2004. The requirement for an emergency evacuation crewmember, as previously stated, exists only for N registered aircraft. The requirement does not exist for aircraft registered in European Aviation Safety Agency (EASA)/European Union (EU) states, or by any other aviation governing body.
7. The G550 is a state of the art aircraft. The G550 is the first civil aircraft to receive a Type Certificate issued by the Federal Aviation Administration (FAA) that includes an Enhanced Vision System (EVS) as standard equipment on an aircraft. The aircraft also contained the first cockpit to incorporate PlaneView®, an integrated avionics suite featuring four 14-inch (36 cm) liquid crystal displays in landscape format. In 2004, Gulfstream was awarded the 2003 Collier Trophy for the development of the G550.
8. Due to the nature of our business, we occasionally have additional passengers added to a flight just prior to departure. Since we are a global operating company, we do not always have the option to add an emergency evacuation crewmember. This inability is due to the lack of availability of such a crewmember in the location we may be or due to the time constraints involved. This would prevent us from using our aircraft to its maximum potential. (This is also one reason we are asking for a full exemption from the requirement for domestic and international operations).

To Summarize: The Halliburton Energy Services flight department is requesting a full exemption from the requirements of an “Emergency Evacuation Crewmember” as required by FAR 25.807(a)(3), 25.807(g)(2) and (3); and 25.807(i)(2), Emergency Exits and FAR 25.807 at Amendment 25-98. Description of compensating design features or alternative standards which allow the granting of the ELOS (including design changes, limitations or equipment needed for equivalency). We feel the facts given to support our request for exemption clearly show that an “Equivalent Level of Safety” does exist and negates the requirement for the additional crewmember.

The requested exemption, when granted, will pertain to operations in Gulfstream G550, S/N 5085, as well as any other Gulfstream GV-SP, G500 and G550 aircraft operated in the future by the Halliburton Energy Services flight department.

Federal Register publication

A summary of this petition was published in the Federal Register on May 17, 2012 [77 FR 29444]. No comments were received.

The FAA’s analysis

The FAA has reviewed the information provided by Halliburton Energy Services and has concluded that granting this exemption is not in the public interest for the reasons described here.

The petitioner's original request for an exemption included all parts of § 25.807 and was revised, via e-mail dated April 5, 2012, to request an exemption from the requirement to have a dedicated person act as an Emergency Evacuation Crewmember as specified in the *Gulfstream Model G550 Airplane Operating Manual*, Supplement G550-OMS-1, on their Gulfstream Model GV-SP, G500, and G550 airplanes. With regard to the original request, an exemption to § 25.807 would also negate many of the requirements associated with emergency exits. The petitioner has not provided the reasons why granting an exemption to all of the requirements of § 25.807 would not adversely affect safety or provide a level of safety at least equal to that provided by the rule (ref. 14 CFR 11.81(e)).

The petitioner also has not provided sufficient justification that removal of the ELOS limitation would continue to provide a level of safety equal to the rule. A lack of fatalities in a very limited number of evacuation events does not indicate that removing the limitation regarding having an Emergency Evacuation Crewmember is equally as safe as having a much larger-sized exit opening (the Type III exit required by 14 CFR 25.807).

Section 11.81(d) requires the petitioner to provide the reasons why granting the exemption would benefit the public as a whole. Halliburton Energy Services' revised public-interest statement makes it clear that the exemption would benefit Halliburton Energy Services and their customers. However, it does not provide reasons why the exemption would benefit the public as a whole.

The FAA would also like to respond to the petitioner's statement that the requirement to have a dedicated person act as an Emergency Evacuation Crewmember is limited to N-registered airplanes only. The Equivalent Level of Safety, issued to allow the installation of non-standard-size, over-wing, elliptical emergency exits on the Gulfstream Model GV-SP airplane, requires an Airplane Flight Manual (AFM) limitation documenting the need for a crewmember to act as an Emergency Evacuation Crewmember on flights with more than 10 passengers. This requirement is not limited to N-registered airplanes only. Rather, the limitation is required to be documented in the AFM during the airplane-manufacturing process as part of the airplane's type certification.

The FAA's decision

In consideration of the foregoing, I find that a grant of exemption is not in the public interest. Therefore, pursuant to the authority contained in 49 U.S.C. 40113 and 44701, delegated to me by the Administrator, Halliburton Energy Services is hereby denied an exemption from the requirement to have a dedicated person act as an Emergency Evacuation Crewmember as specified in the *Gulfstream Model G550 Airplane Operating Manual*, Supplement G550-OMS-1, on their Gulfstream Model GV-SP, G500, and G550 airplanes.

Issued in Renton, Washington, on August 8, 2012.

/s/ Ali Bahrami

Ali Bahrami
Manager, Transport Airplane Directorate
Aircraft Certification Service