



[4910-13]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 27**

[Docket No. FAA-2020-1011; Notice No. 27-051-SC]

**Special Conditions: AgustaWestland Philadelphia Corporation, Leonardo S.p.A. Model A119 and AW119 MKII Helicopters; Pressure Refueling and Fueling Provisions**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed special conditions.

**SUMMARY:** This action proposes special conditions for the Leonardo S.p.A. (Leonardo) Model A119 and AW119 MKII helicopters. These helicopters as modified by AgustaWestland Philadelphia Corporation (AWPC) will have a novel or unusual design feature when compared to the state of technology envisioned in the airworthiness standards for helicopters. This design feature is the optional closed circuit refueling receiver (CCRR). The applicable airworthiness regulations do not contain adequate or appropriate safety standards for this design feature. These proposed special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

**DATES:** Send comments on or before [INSERT DATE 30 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** Send comments identified by Docket No. FAA-2020-1011 using any of the following methods:

- *Federal eRegulations Portal:* Go to <http://www.regulations.gov/> and follow the online instructions for sending your comments electronically.
- *Mail:* Send comments to Docket Operations, M-30, U.S. Department of Transportation (DOT), 1200 New Jersey Avenue, SE, Room W12-140, West Building Ground Floor, Washington, DC 20590-0001.
- *Hand Delivery or Courier:* Take comments to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- *Fax:* Fax comments to Docket Operations at 202-493-2251.

*Privacy:* Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments it receives, without change, to <http://regulations.gov>, including any personal information the commenter provides. Using the search function of the docket web site, anyone can find and read the electronic form of all comments received into any FAA docket, including the name of the individual sending the comment (or signing the comment for an association, business, labor union, etc.). DOT's complete Privacy Act Statement can be found in the *Federal Register* published on April 11, 2000 (65 FR 19477-19478).

*Confidential Business Information:* CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to these special conditions contain commercial or financial information that is customarily

treated as private, that you actually treat as private, and that is relevant or responsive to these special conditions, it is important that you clearly designate the submitted comments as CBI.

Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of these special conditions. Submissions containing CBI should be sent to Rao Edupuganti, Regulations and Policy Section, AIR-681, Rotorcraft Standards Branch, Policy and Innovation Division, Aircraft Certification Service, 10101 Hillwood Parkway, Fort Worth, Texas 76177; telephone (817) 222-4389; facsimile (817) 222-5961. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

*Docket:* Background documents or comments received may be read at <http://www.regulations.gov/> at any time. Follow the online instructions for accessing the docket or go to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

**FOR FURTHER INFORMATION CONTACT:** Rao Edupuganti, Regulations and Policy Section, AIR-681, Rotorcraft Standards Branch, Policy and Innovation Division, Aircraft Certification Service, 10101 Hillwood Parkway, Fort Worth, Texas 76177; telephone (817) 222-4389; facsimile (817) 222-5961.

## **SUPPLEMENTARY INFORMATION:**

### **Comments Invited**

The FAA invites interested people to take part in this rulemaking by sending written comments, data, or views. The most helpful comments reference a specific portion of the special conditions, explain the reason for any recommended change, and include supporting data.

The FAA will consider all comments received by the closing date for comments. The FAA may change these special conditions based on the comments received.

### **Background**

On January 30, 2020, AWPC applied for a supplemental type certificate to install an optional CCRR in the Leonardo Model A119 and AW119 MKII helicopters. The general configuration and the principles of construction of these helicopters will not be changed by the proposed modifications. These helicopters are 14 CFR part 27 normal category helicopters powered by turboshaft engines, with a 7-passenger maximum capacity and minimum crew of one pilot and a maximum weight of 5,997 lb (2,720 kg) and 6,283 lb (2,850 kg), respectively. The total useable fuel capacity of the Leonardo Model A119 and AW119 MKII helicopters is 157.0 U.S. gallons distributed within the fuel tanks. Both helicopter models are powered by one Pratt & Whitney Canada Inc. PT6B-37A turboshaft engine.

Part 27 does not contain requirements for pressure refueling for normal category helicopters. 14 CFR 29.979, amendment 29-12, provides these requirements for transport category helicopters. Accordingly, these special conditions are based on § 29.979 to provide requirements for the inclusion of the optional CCRR on the Leonardo Model A119 and AW119 MKII helicopters.

## **Type Certification Basis**

Under the provisions of 14 CFR 21.101, AWPC must show that the Leonardo Model A119 and AW119 MKII helicopters, as changed, continue to meet the applicable provisions of the regulations listed in Type Certificate No. H7EU or the applicable regulations in effect on the date of application for the change. The regulations incorporated by reference in the type certificate are commonly referred to as the “original type certification basis.” The certification basis also includes certain special conditions, exemptions, or later amended sections of the applicable part that are not relevant to these proposed special conditions.

If the Administrator finds that the applicable airworthiness regulations do not contain adequate or appropriate safety standards for the Leonardo Model A119 and AW119 MKII helicopters because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

Special conditions are initially applicable to the model for which they are issued. Should the applicant apply for a supplemental type certificate to modify any other model included on the same type certificate to incorporate the same novel or unusual design feature, these special conditions would also apply to the other model under § 21.101.

The FAA issues special conditions, as defined in 14 CFR 11.19, in accordance with § 11.38, and they become part of the type certification basis under § 21.101.

## **Novel or Unusual Design Feature**

The Leonardo Model A119 and AW119 MKII helicopters will incorporate the following novel or unusual design feature: an optional CCRR system that allows for pressure refueling.

## **Discussion**

AWPC proposes to install an optional CCRR system that includes provisions for pressure refueling during ground operations with the engine running and the rotors turning. The design proposed by AWPC allows for both closed-circuit pressure and normal gravity refueling and fueling. In this design, the ground crew will be able to perform closed-circuit pressure refueling by pulling the receiver into place using the provided lanyard tool after the fuel filler cap is opened. When gravity fueling is desired, a latch is depressed using the same lanyard tool. Depressing the latch causes the receiver to swing open to accommodate any nozzle up to three inches in diameter. The CCRR system is currently certified on the Leonardo Model AW139 transport category helicopter. Relative to the Model AW139 installation, the proposed Model A119 and AW119 MKII installations will be clocked 25 degrees counter-clockwise, and the receptacle flange will be offset approximately two inches outboard of the fuselage profile due to packaging constraints. The mechanical components and functional aspects of the Model A119 and AW119 MKII CCRR installations are unchanged from the previously certified AW139 installation.

The part 27 airworthiness regulations in the type certification basis do not contain appropriate safety standards for this design feature. However, part 29 regulations contain appropriate airworthiness standards; therefore, these special conditions are necessary. They are derived from 14 CFR 29.979, "Pressure refueling and fueling provisions below fuel level."

Section 29.979, amendment 29-12, effective February 1, 1977, includes standards for pressure refueling and fueling provisions below fuel level on transport category helicopters. This regulation is intended to prevent hazards to ground crew, flight crew, and occupants by reducing the probability of exposure to hazardous quantities of fuel due to spillage. This regulation also

ensures the pressure refueling/defueling system is designed to prevent overfilling the fuel tank and to withstand an ultimate load overpressure event without failure.

Section 29.979(a) requires that each fueling connection below the fuel level in each tank have means to prevent the escape of hazardous quantities of fuel from that tank in case of malfunction of the fuel entry valve. The only refueling connection on the Leonardo Model A119 and AW119 MKII helicopters is located above the fuel level of the single main upper, two main lower, and optional two auxiliary fuel tanks. As the proposed modification by AWPC does not move the existing refueling connection below the fuel line of any fuel tank, these special conditions do not include a requirement derived from 14 CFR 29.979(a).

Section 29.979(b) requires that systems intended for pressure refueling and fueling have a means in addition to the normal means for limiting the tank content to prevent damage to the tank in case of failure of the normal means.

Section 29.979(c) requires that the helicopter pressure fueling system (not fuel tanks and fuel tank vents) withstand an ultimate load that is 2.0 times the load arising from the maximum pressure, including surge, likely to occur during fueling. The maximum surge pressure must be established with any combination of tank valves being either intentionally or inadvertently closed.

Section 29.979(d) requires that the helicopter defueling system (not including fuel tanks and fuel tank vents) withstand an ultimate load that is 2.0 times the load arising from the maximum permissible defueling pressure (positive or negative) at the helicopter's fueling connection. As the design proposed by AWPC does not include a defueling capability, these special conditions do not include a requirement derived from 14 CFR 29.979(d).

These proposed special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

### **Applicability**

As discussed above, these proposed special conditions are applicable to Leonardo Model A119 and AW119 MKII helicopters. Should AWPC apply at a later date for a supplemental type certificate to modify any other model included on Type Certificate No. H7EU to incorporate the same novel or unusual design feature, these special conditions would apply to that model as well.

### **Conclusion**

This action affects only one novel or unusual design feature on the Leonardo Model A119 and AW119 MKII helicopters. It is not a rule of general applicability and affects only the applicant who applied to the FAA for approval of this feature on these helicopters.

### **List of Subjects in 14 CFR Part 29**

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

### **Authority Citation**

The authority citation for these special conditions is as follows:

**Authority:** 49 U.S.C. 106(f), 106(g), 40113, 44701, 44702, 44704.

### **The Proposed Special Conditions**

Accordingly, the Federal Aviation Administration proposes the following special conditions as part of the type certification basis for Leonardo S.p.A. Model A119 and AW119 MKII helicopters, as modified by AgustaWestland Philadelphia Corporation.

The pressure refueling system must be designed and installed as follows:

(a) For systems intended for pressure refueling, a means in addition to the normal means for limiting the tank content must be installed to prevent damage to the fuel tank in case of failure of the normal means.

(b) The helicopter pressure fueling system (not fuel tanks and fuel tank vents) must withstand an ultimate load that is 2.0 times the load arising from maximum pressure, including surge, that is likely to occur during fueling. The maximum surge pressure must be established with any combination of tank valves being either intentionally or inadvertently closed.

Issued in Fort Worth, Texas on October 27, 2020.

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