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Remitente: SECRETARIA DE AUTORIDAD AERONAUTICA
Destinatario: LEONARDO SPA - EMANUEL BUFANO y OTROS

Mr. Emanuele Bufano
Leonardo S.P.A. Helicopters
Head of Airworthiness

SUBJECT: Leonardo S.P.A. Helicopters A109/A119 Type Certificate No. EASA.R.005 - Application for validation by AEROCIVIL of Colombia of AW109SP Model and TCDS EASA.R.005 Issue 25- (**EASA FILE # EASA/60089991**)

Mr. Bufano

We hope this letter finds you well.

The purpose of this letter is to summarize and provide conclusion to the process of acceptance of the Type Certificate EASA.R.005 Issue 25 30/01/2024, which after evaluation of the data provided by Leonardo has been determined to correspond to a post validation activity, concerning to the update of the Type Certificate and addition of the model AW109SP as per LEONARDO S.P.A request, to the previously accepted type certificate as recorded on letter reference #5102-109-2010007746, issued on March 10/2010.

1. BACKGROUND

As part of the request Leonardo S.P.A. has initially provided the following documents to show compliance with the requirements set forth in RAC 21, §21.156:

a. TC EASA.R.005 dated 15 August 2016
b. TCDS EASA.R.005 Issue 25 dated 30 January 2024
c. TCDSN EASA.R.005 Issue 10 dated 15 July 2022
d. TCCA Engine TCDS E-23 issue 27 dated 20 June 2014
e. EASA TCDS IM.E.017 Issue 8 dated 8 August 2022
f. RAC 8110-12 Application for Design Certification
g. 109-5701-77-103 Rev. C - AW109SP Three Views
h. 109-01-15/04 Issue U - AW109SP Compliance Check List & Certification Program
i. 109G0000X006/09 Issue AT - AW109SP Helicopter Type Design Definition Document

The request is accompanied by an explanatory letter reference # AIRW/2024/006 and is supported by EASA, who has provided the letter reference EASA/60089991 dated

14/02/2024 and signed by the Business Services Department of the European Union Aviation Safety Agency.

2. SUBSTANTIATION DOCUMENTS

In addition to the documents initial filed with the request, Leonardo S.P.A., has provided access to its web site, and the following documents have been gathered in support of the process:

1. 0B-A-LOAP-00-P List of Applicable Publications AW109SP (code # 502700622) Issue 37 26/02/2024
2. 0B-B-AMPI-00-P AW109SP S/N 22201, 22203, 22214 thru 22362, 22364 thru 22499 Air Vehicle Maintenance Planning Information Issued on 26/07/2023.
3. The IETP (Interactive Electronic Technical Publications) which includes the following documents (listed only those mandatory for maintaining continuous airworthiness):
   i. 0B-A-AMP-00-X A109S/AW109SP Air vehicle maintenance information Issue 36 26/02/2024
   ii. AW119/A109 Series CPCP AW119/A109 Series corrosion protection and control publication Issue 1 Rev. 4 16/11/2022
   iii. CSRP-A-CSRP-00-X Common structural repair publication Issue 004 16/11/2022
   iv. 3C-A-ASRP-00-X AW119/A109 Series air vehicle structural repair publication Issue 004 16/11/2022
   v. 0B-B-ASRP-00-X A109S/AW109SP Air vehicle structure repair information Issue 25 08/07/2021
   vi. 0B-B-AWDP-00-X A109S/AW109SP Air vehicle wiring data information Issue 34 26/02/2024
   vii. 0B-A-IPD-00-X A109S/AW109SP Illustrated parts data information Issue 34 26/02/2024
   viii. 109G0040A018 ROTORCRAFT FLIGHT MANUAL AW109SP ISSUE B: 11 DECEMBER 2009 REVISION 26, 29 JANUARY 2024
4. 09G0040A019 ROTORCRAFT FLIGHT MANUAL AW109SP OPTIONAL EQUIPMENT SUPPLEMENTS ISSUE B, 11 DECEMBER 2009 REVISION 67 11 JULY 2022
5. 109G0270Q014/013 AW109SP MASTER MINIMUM EQUIPMENT LIST (EASA) Rev. H 11/03/2022
6. 502700616 AW109SP Quick Reference Handbook Issue 2 Rev. 2 31/01/2024
7. 109G9850A001 AW109SP COMPATIBILITY REFERENCE HANDBOOK PED Rev. A 29/06/2022

The definition of the type design of the helicopter is contained in the document listed on item 1(i) (see Background), and by[1] the following documents:

A. 109-9000-09-107 Helicopter General Assembly, including specifications concerning materials and processes (included in the drawings)
B. 109G0272N001 A109/A119 HELICOPTER PRODUCTION CONFIGURATION

C. 109G0270Q011 – AW109SP helicopter – Vendor Item List
D. 109G0840W040 AW109SP HELICOPTER, CHART A - EQUIPMENT LIST
E. 109G0273N001 A109/A119 HELICOPTER CRITICAL PARTS LIST
F. Airworthiness limitations as contained in document 3(i) (See section 2 “Substantiation Documents”) CHAPTER 04 AIRWORTHINESS LIMITATIONS.
G. Certification Maintenance Requirements as contained in document 3(i) (See section 2 “Substantiation Documents”) CHAPTER 04 AIRWORTHINESS LIMITATIONS.
H. Flight Limitations, Normal and Emergency Conditions as contained in documents 4 and 5 (See section 2 “Substantiation Documents”)
I. 109G0270D003/04 AW109SP Acceptance Test Procedure Master Index

Leonardo has provided evidence of compliance of the applicable airworthiness requirements, which are contained in the following documents:

A. 09-01-15/04 A109 Helicopter: Compliance with Applicable Rules Volume 4, Appendix 11, sections 1 and 2 for the basic helicopter
B. 09-01-15/04 A109 Helicopter: Compliance with Applicable Rules Volume 4, Appendix 11 Section 3 Noise and Emissions
C. 109-01-15/04 A109 Helicopter: Compliance with Applicable Rules Volume 4, Appendix 12 to 51 KITS[2]

3. CERTIFICATION BASIS

The above documents and its substantiation reports provide evidence that the helicopter design is in compliance with the following certification basis, for both basic defined helicopter and optional equipment:

A. CS 27 (basic issue) dated 14 November 2003 except CS 27.863.
   a. Special Condition: HIRF INTERIM POLICY/27&29/1 issue 3, dated 01.10.2003 “Protection from the effects of HIRF” Interim Policy in the Administrative and Guidance Material, section 3, Part 3 High Intensity Radiated Fields.
   b. Environmental Protections: Noise ICAO Annex 16, vol. I, Chapter 8, 4th Edition, March 2002.Emissions → ICAO Annex 16, Ed 1993, vol. II, Part II, Chapter. 2 (fuel venting)

[1] Leonardo has provided to AEROCIVIL copies of some of the referenced documents as part of the Type Acceptance process, these documents are underlined for identification in the list, and are certification documents not required to be held or used by any operator.
[2] This section provides evidence of compliance for any of the available options of equipment provided by Leonardo as a KIT for the rotorcraft, not part of the basic helicopter but for which compliance with the applicable airworthiness regulations has been shown.

4. HELICOPTER DESCRIPTION

The **AW109SP** as demonstrated by Leonardo S.P.A. is a derivative from the original certificated model **A109S**, in which the following changes have been incorporated into the design:

1. New Composite fuselage structure p/n 109-0300-21-101 with the same shape and dimension of A109S.
2. The introduction of the "four channel digital autopilot" HAC 3000 derived from that one already developed on A109N model.
3. The introduction of a new cockpit layout with 4 Chelton displays unit (EFIS) and integrated COMM/NAV management system.

The helicopter is certified for a MTOW of 3175 kg, fitted with two Pratt and Whitney PW207C engines (rated and limited as per 109G0040A018 ROTORCRAFT FLIGHT MANUAL). Document 109G0290T198/1-1 AW109SP – General Information Basic Helicopter, provides further details on the explanation of each of the changes introduced into the model, explaining the differences introduced as well as similarities in some areas because of using derivatives from previous designs already certified.

For the purpose of evaluating the impact of the differences, and understanding the rotorcraft configuration obtained, AEROCIVIL requested a set of certification documents (reports, test proposal, and analysis documents), which were used by Leonardo to substantiate the scope of the changes and properly classify them, giving as a result that changes as assessed individually or collectively produced a "significant change" in the type design, therefore no need for a separate type certificate process was established and therefore the certification basis previously defined (see section 3 "Certification Basis") were considered acceptable.

The following documents delivered by Leonardo provide satisfactory evidence of the above-described analysis, as well as evidence of compliance with the established certification basis:

ITEM	DOCUMENT No.	TITLE	REVISION	DATE
1	109G0000L006	AW109SP: Airframe Static Design Loads	B	03/03/2009
2	109G0000N062	Justification of the AW109SP Helicopter Structures as a Derivative of A109 Series and proposed basis of certification	A	03/04/2008
3	109G0000N091	Justification of the AW109SP Helicopter Systems as a Derivative of the A109 Series and proposed basis of certification	B	20/03/2009
4	109G0000P011	AW109SP Basic Structural Design Criteria	B	02/03/2009
5	109G0209P022/01	AW109SP EWS	E	06/12/2007
6	109G0270D003/04	AW109SP Acceptance Test Procedure Master Index	AD	18/01/2022

7	109G0272N001	A109/A119 HELICOPTER PRODUCTION CONFIGURATION	D	03/08/2020
8	109G0273N001	A109/A119 HELICOPTER CRITICAL PARTS LIST	D	24/07/2020
9	109G0290T198/1/01	AW109SP-HMI BASIC HELICOPTER (TP)	B	08/03/2021
10	109G0290T198/1	AW109SP – Flight Test for the basic helicopter certification (Test Proposal)	E	08/03/2021
11	109G0290T198/1-1	AW109SP – General Information. Basic Helicopter	A	20/05/2008
12	109G0290T198/1-2	AW109SP – Flight Handling Qualities. Basic Helicopter (Test Proposal)	A	20/05/2008
13	109G0290T198/1-3	AW109SP – System Failures. Basic Helicopter (Test Proposal)	A	20/05/2008
14	109G0290T198/1-4	AW109SP – Flight Performance. Basic Helicopter (Test Proposal)	A	20/05/2008
15	109G0290T198/1-5	AW109SP – Human Machine Interface. Basic helicopter (Test Proposal)	C	28/01/2009
16	109G0290T198/2/01	AW109SP-HMI BASIC Helo	E	20/04/2021
17	109G0290T198/2	AW109SP-FTR Basic Helo	L	12/04/2021
18	109G0290T198/2-1	AW109SP – General Information. Basic Helicopter	A	12/02/2009
19	109G0290T198/2-2	AW109SP – Flight Handling Qualities. Basic Helicopter (Test Report)	E	22/10/2009
20	109G0290T198/2-3	AW109SP System Failures – Basic Helicopter (Test Report)	B	16/04/2009
21	109G0290T198/2-4	AW109SP – Flight Performance. Basic Helicopter (Test Report)	E	22/10/2009
22	109G0290T198/2-5	AW109SP – Human Machine Interface. Basic helicopter & P/N 109-B810-12-101 customization. (Test Report)	G	25/11/2011
23	109G0290T198/2-6	AW109SP- Handling Qualities Data (Test Report)	B	16/04/2009
24	109G0290T198/2-7	AW109SP – System Failures Data. (Test Report)	B	16/04/2009
25	109G0290T198/2-8	AW109SP – Flight Performance Data (Test Report)	A	12/02/2009
26	109G0290T209/2	AW109SP Engines Installation Flight Test Report	C	21/12/2010

27	109G0410A011/01	Airworthiness Limitation Section AW109SP	G	18/04/2024
28	109G2400L006/01	AW109SP – BASIC CONFIGURATION - ELECTRICAL LOAD ANALYSIS	G	28/05/2014
29	109G2400U005	AW109SP – EPGDS DESIGN REPORT	C	18/05/2010
30	109G2910N010	AW109SP INTEGRATED HYDRAULIC SYSTEM AND MAN ROTOR DAMPER DESCRIPTION/QUALIFICATION REPORT	B	10/01/2012
31	109G3000U005	AW109SP -Miscellaneous Electrical System report	A	18/12/2008
32	109G5300S014	AW109SP Helicopter – Static Substantiation of Fuselage Structure	C	09/07/2010
33	109G5300S015	AW109SP Helicopter Fatigue Analytical Substantiation of Airframe Structure	A	28/02/2008
34	109G5300S016	AW109SP Residual Strength Analysis	A	05/03/2009
35	109G5300X001	AW109SP Threat Assessment For Structure	C	28/03/2009
36	109G9850T025/1	AW109SP EMC SYSTEM TEST PLAN	A	30/10/2008
37	109G9850T025/	AW109SP EMC SYSTEM TEST REPORT	A	20/04/2009

A. NOTES REGARDING INTERNAL CONFIGURATION

As shown by Leonardo, any of the helicopters to be delivered to Colombia will have an internal configuration designated as “VIP”, which allows up to six passenger seats (maximum configuration), arranged as described in the supplement 32 to RFM P/N 109G0040A018. This supplement has been approved by EASA, and Leonardo has provided evidence that the change associated with this configuration was classified as a “minor change” to the type design of the rotorcraft, which has been demonstrated by the following documents, submitted to Aerocivil:

I. Change Definition NDC 109-B811-023/I “AW109SP Internal arrangement VIP Inst. Kit (6 Pax)”. Issue 6 dated 10/06/2010
II. Compliance Investigation Program NDC 109-B811-023/II “AW109SP Internal arrangement VIP Inst. Kit (6 Pax)” Issue B dated 05/07/2010 (Includes compliance check list for the minor change).
III. Change Approval NDC 109-B811-023/III “AW109SP Internal arrangement VIP Inst. Kit (6 Pax)” Issue A dated 13/07/2010

No other configuration different to the basic approved in the RFM or Supplement 32 will be accepted, unless all the engineering and design aspects are previously approved by the state of design authority.

It is important to highlight that in accordance with document 109-01-15/04 Issue U - AW109SP Compliance Check List & Certification Program the helicopter has not been certified for ditching (see Appendix 11 Section 1 AW109SP Compliance with the Applicable Rules page 27 par CS27.563 Structural ditching provisions)

Other than the clarifications provided regarding internal configuration and ditching, based on the evidence provided, all the optional equipment already proven in compliance with the certification basis established is considered approved and valid to be used in Colombia, as long as the operator provides evidence of use of the appropriate approved data in the form of Service Bulletins as Issued by LEONARDO S.P.A, and subject to compliance of the requirements established in RAC 43, as applicable to the modification (kit) being installed in the rotorcraft, unless the exporter or the operator provide appropriate evidence of previous installation of the subject kit(s) either by the manufacturer previous to the delivery of the rotorcraft being imported, or in case of an used product, by satisfactory evidence of embodiment of the corresponding SB.

Included with the original request filed by Leonardo S.P.A, as referenced on item AIRW/2024/006, four appendices have been included to support the status of the product at the time of the request, which are listed below:

i. Appendix A – Minor and Major Changes in RFM to AW109SP Type Certificate
ii. Appendix B – Minor and Major Changes in RFM OES to AW109SP Type Certificate
iii. Appendix C – Minor and Major Changes in Chapter 04 - ALS to AW109SP Type Certificate
iv. Appendix D – Major Changes with no impact on approved manuals to AW109SP Type Certificate

All the documents listed either are approved by EASA or under Leonardo S.P.A. DOA Authority approval.

5. ACCEPTANCE

Upon evaluation of all the certification documentation provided to AEROCIVIL, it has been determined that the significant change to the type design is in compliance with the airworthiness regulations of the state of design as required by RAC 21 §21.156, and here by this letter accept the Type Certificate **EASA.R.005** Issue **25** dated January 30,2024, and as of the issuance of this letter the model **AW109SP** is accepted for operations in Colombia, as it has been shown that the rotorcraft is in compliance with the applicable airworthiness code of the state of design (**EASA**). Is important to clarify that this letter of acceptance is issued as a post validation activity, to include the model **AW109SP**, and accept the

corresponding type certificate revision, therefore this model is added to those previously accepted under letter reference #**5102-109-2010007746**, issued by AEROCIVIL on March 10/2010.

The following list comprises all the documents approved by EASA and considered mandatory for the operation of the rotorcraft in Colombia in compliance to its type certificate in the revisions listed or later EASA approved revisions:

ITEM	P/N	DESCRIPTION	ISSUE	DATE
1	0B-B-AMPI-00-P	AW109SP S/N 22201, 22203, 22214 thru 22362, 22364 thru 22499 Air Vehicle Maintenance Planning Information		26/07/2023
2	0B-A-AMP-00-X	A109S/AW109SP Air vehicle maintenance information	36	26/02/2024
3	AW119/A109 Series CPCP	AW119/A109 Series corrosion protection and control publication	1 Rev. 4	16/11/2022
4	CSRP-A-CSRP-00-X	Common structural repair publication	004	16/11/2022
5	3C-A-ASRP-00-X	AW119/A109 Series air vehicle structural repair publication	004	16/11/2022
6	0B-B-ASRP-00-X	A109S/AW109SP Air vehicle structure repair information	25	08/07/2021
7	0B-B-AWDP-00-X	A109S/AW109SP Air vehicle wiring data information	34	26/02/2024
8	0B-A-IPD-00-X	A109S/AW109SP Illustrated parts data information	34	26/02/2024
9	109G0040A018	ROTORCRAFT FLIGHT MANUAL AW109SP	B REV 26	11/12/2009 29/01/2024
10	109G0270Q014/013	AW109SP MASTER MINIMUM EQUIPMENT LIST (EASA)	Rev. H	11/03/2022
11	502700616	AW109SP Quick Reference Handbook	2 Rev. 2	31/01/2024
12[a]	109G9850A001	AW109SP COMPATIBILITY REFERENCE HANDBOOK PED	A	29/06/2022
13[b]	109G3360A001	COMPATIBILITY REFERENCE HANDBOOK NVG	U	19/12/2023
14[c]	109G0040A019	AW109SP OPTIONAL EQUIPMENT SUPPLEMENTS – SUPPLEMENT No. 32 “Internal Arrangement”	B Rev. 2	21/07/2010

[a] This document to be used in conjunction with RFM, when assessing the compatibility of PED with basic and optional equipment installed on the rotorcraft.
[b] This document to be used in conjunction with RFM when determining compatibility with NVG of the equipment installed on the aircraft, specific instructions are provided to determine if a given configuration of the AW109SP is NVG compatible, established the approved configurations to qualify the rotorcraft for NVG operations and lists the goggles approved models for use with AW109SP helicopter.

[c] This document is supplied by Leonardo in the form of a separate manual which compiles all the optional equipment supplements, however, not all the supplements are required for operation unless all of them installed. Therefore, for Colombia, the minimum requirement is to have supplement No. 32 On Board as listed.

Leonardo has provided access to the technical publications web site (https://customerportal.leonardocompany.com/en-US/) and has shown that they maintain a set of service bulletins, service letters and other publications approved for the continuous airworthiness which include documents that provide instructions to modify the basic equipment. As such, these documents have been shown to comply with the basis of certification of the helicopter, and therefore are considered approved data to modify the rotorcraft when elected by the operator and are also accepted in this letter in its current or later revisions.

Is the responsibility of the importer to show that any rotorcraft (of any of the models accepted here) imported, and for which a certificate of registration in Colombia will be requested, is in compliance with the type certificate as accepted in this letter or any later approved revision issued by **EASA**, and this letter does not exempts the operator to obtain an export certificate of airworthiness for the product being imported as required in RAC 21 §21.825(c)(3). This letter does not constitute exemption for compliance of any other legal requirements associated with the import of the product valid in Colombia when importing the aeronautical product here accepted.

6. VALIDITY

This letter of acceptance will remain valid until the original type certificate remains valid, unless **EASA** cancels or revokes the accepted type certificate, or the holder (**LEONARDO S.P.A.**) voluntarily surrenders it to **EASA**.

Any changes on type certificate holder must be notified to this authority, and the holder is responsible for ensuring that all the information required is kept updated to guarantee safe operation and support the continued airworthiness of the rotorcraft registered in Colombia. Any major significant change to the type design must be notified to this Authority and the supporting documents must be provided to update this letter.

If at any point in time, the AEROCIVIL finds that there is a reasonable doubt to indicate that the safety of the aeronautical product is compromised because of an unsafe condition developed in the aeronautical product, AEROCIVIL may cancel this letter of Acceptance.

Sincerely,

Col. (AR) Rodrigo R. Zapata R.
Aeronautical Authority Secretary
Colombian Civil Aviation Authority (AEROCIVIL)

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