Democratic Socialist Republic of Sri Lanka

Civil Aviation Authority of Sri Lanka

Implementing Standards
(Issued under Section 120, Civil Aviation Act No. 14 of 2010)

Title: DISINSECTION OF AIRCRAFT

IS Reference Code: CA-IS-2024-OPS-003 **Date of Issue**: 14th August 2024

Pursuant to Section 120 of the Civil Aviation Act No.14 of 2010 which is hereinafter referred to as the CA Act, Director General of Civil Aviation (hereinafter referred to as the DGCA) shall have the power to issue, whenever he considers it necessary or appropriate to do so, such Implementing Standards for the purpose of giving effect to any of the provisions of the CA Act, any Regulations or Rules made thereunder including the Articles of the Convention on International Civil Aviation which are specified in the Schedule to the CA Act.

Accordingly, I, being the DGCA do hereby issue the Implementing Standard on **Disinsection of Aircraft** as mentioned in the Attachment hereto **(Ref: CA-IS-2024-OPS-003-Att),** elaborating the requirements to be satisfied for the effective implementation of the International Standards and Recommended Practices on "**Disinsection of Aircraft**" contained in ICAO Annex 09.

This Implementing Standard shall be applicable to every person holding an Air Operator Certificate, Foreign Air Operator Certificate & Non-scheduled Charter Operation approvals issued by the DGCA and their employees engaged in flight operations and shall come in to force with immediate effect and remain in force unless revised/revoked.

This Implementing Standard supersedes the Aviation Safety Notice (ASN) 031 issued by the DGCA.

Attention is also drawn to section 103 of the Act, which states inter alia that failure to comply with Implementing Standard is an offence. Further, if any standard stipulated in this Implementing Standard is not complied with or violated, an appropriate enforcement action will be taken as per the aviation enforcement policy and procedure Manual, SLCAP 0005 by the DGCA under Section 102 of the CA Act No. 14 of 2010.

Civil Aviation Authority of Sri Lanka
No. 152/1, Minuwangoda Road,
Katunayake.

AVM Sagara Kotakadeniya (Retd.)
Director General of Civil Aviation and
Chief Executive Officer

Enclosure: Attachment No. **CA-IS-2024-OPS-003-Att**

Preamble

1. Notice to the Recipient

1.1. The requirements in this Implementing Standard are based on the Standards and Recommended Practices (SARPs) adopted by the International Civil Aviation Organization (ICAO) and incorporated in the Amendment No. 29 to Annex 09.

1.2. In pursuance of the obligation cast under Article 38 of the Convention which requires the Contracting States to notify the ICAO of any differences between the national regulations of the States and practices and the International Standards contained in the respective Annex and any amendments thereto, the CAASL will be taking steps to notify ICAO of such differences relating to either a Standard or a Recommended Practice, if any. The CAASL will also keep the ICAO currently informed of any differences which may subsequently occur, or of the withdrawal of any differences previously notified. Furthermore, the CAASL will take steps for the publication of differences between the national regulations and practices and the related ICAO Standards and Recommended Practices through the Aeronautical Information Service, which is published in accordance with the provisions in the Annex-15 to the Convention.

1.3. Taking into account of the ICAO council resolution dated 13 April 1948 which invited the attention of Contracting States of the desirability of using in the State's national regulations, as far as is practicable, the precise language of those ICAO Standards that are of a regulatory character, to the greatest extent possible the CAASL has attempted to retain the ICAO texts in the Annex in drafting this Implementing Standard.

1.4. Status of ICAO Annex components in the Implementing Standard

Some of the components in an ICAO Annex are as follows and they have the status as indicated:

1.4.1 **Standard**: Any specification for physical characteristics, configuration, materiel, performance, personnel or procedure, the uniform application of which is recognized as necessary for the safety or regularity of international air navigation and to which Contracting States will conform in accordance with the Convention; in the event of impossibility of compliance, notification to the Council is compulsory under Article 38. The ICAO Standards are reflected in the Implementing Standards if they are locally implemented using the normal fonts and recipients are required to conform to such requirements invariably.

1.4.2 **Recommended Practice**: Any specification for physical characteristics, configuration, materiel, performance, personnel or procedure, the uniform application of which is recognized as desirable in the interest of safety, regularity, efficiency or environmentally responsiveness of international air navigation, and to which

Contracting States will endeavour to conform in accordance with the Convention. The ICAO Recommended Practices are reflected in the Implementing Standards in italic fonts and the Recipients are encouraged to implement them to the greatest extent possible.

1.4.3 **Appendices:** Comprising material grouped separately for convenience but forming part of the Standards and Recommended Practices adopted by the Council. Enforcement action on such matters will be as in the case of Standards or Recommended Practices.

1.4.4 **Definitions**: A definition does not have independent status but is an essential part of each Standard and Recommended Practice in which the term is used, since a change in the meaning of the term would affect the specification.

1.4.5 **Tables and Figures**: add to or illustrate a Standard or Recommended Practice, and which are referred to therein, form part of the associated Standard or Recommended Practice and have the same status.

Record of Revision

Revision No.	Date Entered	Entered By
00	14th August 2024	D.OPS

List of Effective Pages

Page No.	Revision No.	Effective Date
Page 01	00	14th August 2024
Page 02	00	14th August 2024
Page 03	00	14th August 2024
Page 04	00	14th August 2024
Page 05	00	14th August 2024
Page 06	00	14th August 2024
Page 07	00	14th August 2024
Page 08	00	14th August 2024
Page 09	00	14th August 2024
Page 10	00	14th August 2024
Page 11	00	14th August 2024
Page 12	00	14th August 2024
Page 13	00	14th August 2024
Page 14	00	14th August 2024

History of Revision

Revision No.	Source	Areas Subject to Change	Effective Date
01st Edition	Section D, Chapter 02 of Annex 09 WHO Guidance materials regarding aircraft disinsection methods and procedures (2nd Edition) Ministry of Health letter Reference: DQ/07/2020 dated 18th Oct 2023	All areas	14th August 2024

Table of Contents

Implementing Standards

Title: Disinsection of Aircraft

1. General

1.1. Requirements contained in this document are based on the 29th amendment of ICAO Annex 09 "Facilitation" Chapter 02 – Section D "Disinsection of Aircraft" and Ministry of Health letter reference DQ/07/2020 dated 18th October 2023 & World Health Organization Aircraft Disinsection Methods and Procedures.

1.2. The requirements contained in this document are applicable to person/organizations holding an Air Operator Certificate / Foreign Air Operator Certificate and Non-scheduled Charter Operation approvals issued by Director-General of Civil Aviation, Sri Lanka for commercial air transportation and prospective applicants for Air Operator Certificate / Foreign Air Operator Certificate for commercial air transportation

1.3. Holders of Air Operator Certificate issued by the DGCA for commercial air transportation shall comply with the requirements published in this document and are hereby instructed to forward to the DGCA a "Declaration of Conformance" which indicates the degree of compliance with each item detailed in the document.

1.4. This document may be amended from time to time and the amendments will be reflected with the vertical line on the right side of the text.

2. Abbreviation

(i)	AOC	-	Air Operator Certificate
(ii)	CAASL	–	Civil Aviation Authority of Sri Lanka
(iii)	DGCA	-	Director General of Civil Aviation
(iv)	GD	-	General Declaration
(v)	ICAO	–	International Civil Aviation Organization
(vi)	IHR	-	International Health Regulations (2005)
(vii)	MoH	-	Ministry of Health
(viii)	WHO	-	World Health Organization

3. Applicable Legal Provisions relating to the Issue of the Implementing Standard.

(a) Annex 9 – Facilitation
(b) WHO Aircraft Disinsection Methods and Procedures (2nd Edition)
(c) MoH letter – DQ/07/2020 dated 18th October 2023

4. Aircraft Disinsection Methods

4.1 Residual Disinsection Procedures

4.1.1 The internal surface of the aircraft, excluding food preparation areas are sprayed with residual disinsection at intervals not exceeding 8 weeks. Pesticides used and methods of applications shall be as per the recommendations given by the WHO.

4.1.2 The residual disinsection remains effective for eight (08) weeks and causes minimal inconvenience to passengers and prevents the crew or passengers from exposure to aerosol sprays.

4.2 Pre-Flight Aerosol Application (Pre-Embarkation)

4.2.1 The pre-flight spraying involves the aircraft cabin and hold being sprayed with an aerosol containing a residual insecticide while the aircraft is on the ground but prior to passengers boarding. This treatment lasts for the duration of a single flight sector

5. Aircraft Disinsection Insecticides and Application Procedures

5.1 For Residual Disinsection

5.1.1 A 2% emulsion of permethrin as recommended by the WHO should be used for residual spraying.

5.1.2 The application rate is 0.2g of permethrin per square meter. To achieve this, the 2% emulsion of permethrin needs to be sprayed at a rate of 10 ml per square meter.

5.1.3 Residual Disinsection provides an insecticidal deposit on inside walls or structures to kill target insects that come into contact with the treatment surface. These deposits are intended to remain active for extended time period of eight (08) weeks.

5.1.4 The AOC holders shall ensure the aerosol products mentioned above point 5.1.1 used in residual disinsection are meet all aviation and aircraft manufacturers technical and safety requirements.

5.1.5 For complete coverage of all the surface areas as required, adequate quantity of the insecticide is needed. Examples of approximate quantity of the insecticide to be needed for treatment of interior surfaces of both cabin and cargo compartments of different types of aircraft have been given as follows:

Table 01

Aircraft Type	Approximate Quantity of The Insecticide To Be Needed
B747 or its analogs	25 litres
A330	18.9 litres
A350	25 litres
A320/A321	10 litres
B 787 or its analogs	21 litres
B 777 or its analogs	20 litres
B767 or its analogs	16 litres
B737 or its analogs	8 litres
ATR 72 or its analogs	7 litres
A319	7 litres

Note: The aircraft types which are not mentioned in the above table shall notify Flight Operations Section of this authority, prior to commencing operations into Sri Lanka for the quantity of insecticide required.

5.1.6 Suggested means of application is by compression sprayer that has a constant flow valve and flat fan nozzle according to WHO specifications. Aerosols can be used to spray electrically sensitive areas.

5.1.7 Turn off the air conditioning system including any pre-conditioned air from a ground support unit. Recirculation fans may be left on if essential to the operation of the aircraft, but set to the lowest rate.

5.1.8 Prepare the aircraft by opening, clearing and cleaning all lockers, cupboards, storage units etc. and drawing all curtains and window blinds. Remove carpet covers if present. Spray all internal surfaces including ceiling, walls, lockers curtains, toilets and wall areas behind curtains, except food preparation area

5.1.9 Spray both sides of doors and locker lids. At the need of the operation respray the carpets.

5.1.10 Do not remove permanently stored items such as Megaphone, first aid kits, oxygen bottles, fire extinguishers etc. Avoid spraying windows, instrumental panels, control panels and removable components such as food trolleys.

5.1.11 After treatment is completed, air-conditioning packs should be run for at least one hour to clear the air of volatile components of the spray before the crew and passengers embark.

5.1.12 Touch-up treatment should be performed if treated areas were to be cleaned or refurbished between successive treatments.

5.1.13 For hold disinsection, the same application rate of 2% permethrin as cabin should be applied to compartment walls, ceiling and floors of holds. Pay special attention to sidewall and floor cavities. The areas should be free from pallets, containers and any rubbish when spraying.

6. Certification and approval process (new)

6.1 Certification Process for Holders of an AOC

6.1.1 Letter of Intent to commence residual disinsection programme to be submitted along with supporting documents 30 days prior to commencement date.

6.1.2 If any clarifications or further informations are required, CAASL will contact the applicant and it may exceed the 30 days period for the certification process.

6.2 Approval process

6.2.1 AOC / FAOC holders and Non-scheduled Charter Operation approval holders shall provide certificate of Residual treatment conducted and / or other necessary documents and items whenever proof of residual disinsection requested by the CAASL and Public Health Officers at the airport.

6.2.2 The certified copies of the Residual certificate and/or other necessary documents shall be submitted to the Airport Public Health office.

6.2.3 The AOC / FAOC holders and Non-scheduled Charter Operation approval holders are responsible for ensuring that the Residual treatment certificate meets the requirements of this document.

6.2.4 The AOC holders shall share the residual treatment schedule/s to Aircraft Operations section, Aeromedical services of CAASL and the Directorate of Quarantine of the Ministry of Health.

7. Pre-Flight Aerosol Application (Pre Embarkation)

7.1 Pre-flight aerosol application shall be carried out at the last overseas airport before departure for any international airport in Sri Lanka i.e. BIA/MRIA/JIA/RMA.

7.2 The treatment shall be conducted at the last overseas airport after all cargo has been loaded and prior to hold door closing.

7.3 Shall inform Crew before the conduction of Disinsection in hold as the aerosol may set off smoke alarms.

7.4 The objective of aerosol treatment with d-phenothrin or 1R-trans-phenothrin of cabin airspace is to quickly knock down and kill any small flying insects that are present. Permethrin acts more slowly and is not only used to treat the cabin space but also to provide a fine residual coating on many internal surfaces.

7.5 When insects come into contact with the treated surfaces, they are knocked down to the floor. Aerosol cans should have a discharge rate of 1 g/s (with a tolerance rate of 20%) and provide a droplet size according to the WHO specifications for equipment used in vector control (1). The propellant used in spray cans for disinsection of aircraft must be

registered with the appropriate authority and must meet aviation and aircraft manufacturers' technical and safety requirements for its use (i.e. not flammable). The spray rates for the cabin and the cargo holds are:

(a) **Cabin spraying**
Spraying should be at a rate of 35 g of formulation per 100 m^3 cabin space (or 10 g formulation per 28 m^3 (1000 ft^3)), i.e. 0.7 g per 100 m^3 for a 2% aerosol formulation.

(b) **Cargo hold spray**
Spraying should be at a rate of 35 g of formulation per 100 m^3 (or 10 g of formulation per 28 m^3 (1000 ft^3)), i.e. 1.4 g per 100 m^3.

The requirements for the lower and upper cargo areas are as follows.

(i) **Lower cargo holds**
A combination aerosol of permethrin 2% and d-phenothrin 2% (or 1R-trans-phenothrin 2%) in a spray can with a single-shot vertical ejection nozzle is the recommended aerosol for application in cargo holds in which residual treatment with permethrin 2% EC has not been completed.
In special circumstances, the airline may select the alternative of an aerosol containing either d-phenothrin 2% or 1R-trans-phenothrin 2% with a single-shot vertical ejection nozzle

(ii) **Upper cargo hold area of a freighter**
A combination aerosol in a spray can containing permethrin 2% and d-phenothrin 2% (or 1R-trans-phenothrin 2%) is the recommended aerosol for application in the upper cargo hold area of freighters.
In special circumstances, the airline may select the alternative of an aerosol containing either d-phenothrin 2% or 1R-trans-phenothrin 2% with either a single-shot vertical or a multi -shot ejection nozzle when residual treatment with permethrin 2% EC has not been completed.

7.6 Procedure

7.6.1 The aim of treatment is a short-term and not a long-term residual effect. It is designed to kill any mosquitoes that come aboard with the passengers. When surfaces are intensively cleaned or wiped, pre-embarkation treatment should be undertaken after disinfection has been completed and the surfaces have dried.

7.6.2 **The procedure is as follows:**

(i) For single-sector flights, the treatment shall be carried out at the departing airport before departing to Sri Lanka.

(ii) For multi-stop flights, pre-embarkation treatment must be carried out at the last overseas port before departure to Sri Lanka.

(iii) The treatment must be conducted after the aircraft has been fully catered, the service doors closed and before passengers board the aircraft. One main entry door per level may remain open for operational requirements.

(iv) Spraying must be completed with an aerosol of permethrin 2% as the a.i. See Table 01 for more information on aerosol methods and the aerosol spray amounts listed in section 5 for the amounts of spray required for each aircraft type.

(v) During application of spray and for 5 min after completion of spraying, the aircraft's air-conditioning must be switched off. Recirculation fans may be left on if they are essential for operation of the aircraft but should be set at the lowest flow rate.

(vi) Overhead and sidewall lockers should be kept open during spraying.

(vii) Spray should be directed towards the open overhead lockers and ceiling to ensure that the spray does not fall on the face of the operator while he or she is walking along the aisle at a rate of not more than one step or one row of seats per second.

(viii) Spray all galleys, including those on lower levels, and the lift access.

(ix) Spray all toilets and coat lockers for 2 seconds each. Ensure that toilet seats and baby changing tables are up and not sprayed

(x) Spray all crew rest areas, avoiding bedding, and the flight deck for 3 seconds each. Spray must be directed away from aircraft equipment, officials and crew.

(xi) Any noncompliance with these procedures shall be reported to the intended first port before arrival.

8. Pre- Flight Cabin Spraying Combined With Top- of- Descent Spraying

8.1 In special circumstances when the Ministry of Health request to disinsect an aircraft with the top of decent spraying, the below procedures shall be carried out.

8.2 Cabin Disinsection

8.2.1 Shall be conducted immediately prior to the aircraft starts it's decent.

8.2.2 And in-flight announcement shall be made prior to the disinsection and shall be carried out with minimum incontinence to passengers.

8.2.3 The air conditioning systems shall be set to normal flow and the recirculation fans during spraying.

8.2.4 Overhead and sidewall compartments shall be remain closed during spraying.

8.2.5 Spraying is to be applied from AFT to FWD of the aircraft towards the walls and ceiling, along the aisle at a space of not more than 01 step or row of seats per second.

9. Certification

Template of the Residual Disinsection Certificate attached in Appendix A of this document.

10. Appendix A - Certificate of Residual Disinsection

GOVERNMENT OF .....

CERTIFICATE OF RESIDUAL DISINSECTION

Interior surfaces, including cargo space, of this aircraft . . . . . were treated with an approved residual
(aircraft registration)
disinsection product on . . . . . in accordance with the World Health Organization recommendations (WHO Weekly
(date)
Epidemiological Record No. 7, 1985, p. 47; No. 12, 1985, p. 90; No. 45, 1985, pp. 345-346; and No. 44, 1987, pp. 335-336) and any amendments thereto.

The treatment must be renewed if cleaning or other operations remove a significant amount of the residual disinsection product, and in any case within 8 weeks of the above date.

Expiry date: .....

Signed: .....

Designation: .....

Date: .....