هيئة الطيران المدني
CIVIL AVIATION AUTHORITY

CAR-CORSIA

Civil Aviation Regulation

Carbon Offsetting and Reduction Scheme for International Aviation

Effective 1st March 2025

Approved by: HE Eng. Naif Ali Hamed Al Abri
(President of the CAA)

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CORRIGENDUM OF AMENDMENTS

No.	Revision	Effective	Description
1	First Issue (00)	01 Mar 2025	*New Regulation - First Issue* This is a new regulation lays down requirements related to Carbon Offsetting Reduction Scheme for International Aviation in line with ICAO Annex 16 vol. IV.

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FOREWORD

(a) The Civil Aviation Requirements for Carbon Offsetting Reduction Scheme for International Aviation entitled as "**CAR-CORSIA**", have been issued by the Civil Aviation Authority of Oman (hereinafter referred as CAA) under the provisions of the Civil Aviation Law (CAL) issued by the Royal Decree No. (76/2019) of the Sultanate of Oman.

(b) The Volume IV to ICAO Annex 16 was developed with its 1st edition in response to a request by the ICAO Assembly which, at its 39th Session in 2016, adopted Assembly Resolution A39-3: Consolidated statement of continuing ICAO policies and practices related to environmental protection – Global Market-based Measure scheme. Thus, Member States decided to implement a global MBM scheme in the form of the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) and entered into force on 1st September 2019, and it is expected to be applicable with immediate effect.

(c) During the 41st Assembly of ICAO in October 2022, the member states adopted the Long-Term Aspirational Goal (LTAG) for international aviation, aiming for net-zero carbon emissions by 2050. The governments and the aviation industry are fully committed to ensuring the sustainable development of international aviation, acknowledging its critical role in global economic and social progress. CORSIA is recognized as a complementary element in the basket of measures to achieve ICAO's long-term aspirational goal (LTAG): aircraft technology, operational improvements, sustainable aviation fuels and market-based measures (MBM).

(d) Beginning from the 2019-2020 baseline period the Aeroplane operators are required to measure and report CO_2 emissions based on fuel use from international flights. The timeline and compliance requirements for CORSIA Standards and Recommended Practices (SARPs) can be found in Appendix 1 of ICAO Annex 16, Volume IV as amended. However, emissions in excess of internationally agreed targets must be offset via cancellation of emissions credits or other emission reduction schemes.

(e) This regulation, prescribes the requirements in response to the ICAO CORSIA for implementation in the Sultanate of Oman (with ultimate goal of reducing CO_2 emissions through Carbon Offset and Reduction). This regulation and implementation process will make a significant and early contribution to the global industry's decarbonization and for the aviation's industry in the Sultanate of Oman.

(f) The ICAO Annex 16, Volume IV, provides the basic structure of this Regulation. The relevant requirements to an aeroplane operator engaged in international air navigation are specified in the individual Subparts of this Regulation in accordance with the CORSIA SARPs. whereas:

Subpart A contains the General and Administration requirements for the purpose of this Regulation.

Subpart B contains requirements for monitoring, reporting and verification (MRV) of an aeroplane operator's CO_2 emissions, and the guidelines on the verification of an emissions report and submission of relevant reports to ICAO, as well as the requirements for verification of CORSIA eligible fuels, and data gaps.

Subpart C contains, aeroplane operator's CO_2 offsetting requirements that can be reconciled using emissions units generated by eligible programmes.

Subpart D contains the requirements that can be reconciled using emissions units generated by eligible programmes under ICAO certification.

(g) The editing practices used in this document are as follows:

(1) '**Shall**' is used to indicate a mandatory requirement and appear in regulatory text.

(2) '**Should**' is used to indicate an Acceptable Means of Compliance (AMC).

(3) '**May**' is used to indicate discretion by the CAA, or the industry as appropriate.

(4) '**Will**' indicates a mandatory requirement and is used to advise of action incumbent on the CAA.

(5) The elements of this Regulation are colour-coded and can be identified according to the illustration below:

Regulation / Requirement

Acceptable Means of Compliance (AMC)

Guidance Material (GM)

The above colour coding has been adjusted to make the content of this document user-friendly.

(6) Amendments to the text of this Regulation, in subsequent editions, will be issued as a complete amendment of pages and the list of changes will be listed in the amendment table.

(7) The use of the male gender implies the female gender and vice versa.

COVER REGULATION

Regulation No 2025/14 of the Civil Aviation Authority of Oman

of 1 March 2025

on technical requirements for Monitoring, Reporting and Verification of CO_2 emission produced during international flights by relevant Omani aeroplane operators as well as the applicable Carbon Offsetting requirements and the related Reduction Scheme in line with ICAO Annex 16 vol IV.

The Civil Aviation Authority (CAA), based on:

(a) Civil Aviation Law (Royal Decree 76/2019), and in particular Article 7(c), empowering CAA to issue Civil Aviation Regulations;

(b) the proposal of Director General of Civil Aviation Regulations;

(c) industry and stakeholder consultation;

(d) Civil Aviation Regulation Rulemaking Procedures (CAR-11); and

(e) For implementation of Carbon offsetting and Reduction Scheme for International Aviation (CORSIA),

has promulgated the Regulation hereunder:

Article 1 – Definitions, Abbreviations and Units

(a) Notwithstanding of CAR-1 "Definitions and Abbreviations", the following definitions shall apply for the purpose of this Regulation:

Aerodrome. A defined area on land or water (including any buildings, installations, and equipment) intended to be used either wholly or in part for the arrival, departure, and surface movement of aircraft.

Aerodrome pair. A group of two aerodromes composed of a departing aerodrome and an arrival aerodrome.

Aeroplane. A power-driven heavier-than-air aircraft, deriving its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight.

Aeroplane owner. Person(s), organization(s) or enterprise(s) identified either through the certificate of registration of an aeroplane.

Air operator certificate (AOC). A certificate authorizing an operator to carry out specified commercial air transport operations.

Cancel. For the purposes of this Regulation, "cancel" means the permanent removal and single use of a CORSIA Eligible Emissions Unit within a CORSIA Eligible Emissions Unit Programme designated registry such that the same emissions unit may not be used more than once. This is sometimes also referred to as "retirement", "cancelled", "cancelling" or "cancellation".

CORSIA eligible fuel. A CORSIA sustainable aviation fuel or a CORSIA lower carbon aviation fuel, which an aeroplane operator may use to reduce their offsetting requirements.

CORSIA lower carbon aviation fuel. A fossil-based aviation fuel that meets the CORSIA Sustainability Criteria as per ICAO Annex 16 Vol. IV.

CORSIA sustainable aviation fuel. A renewable or waste-derived aviation fuel that meets the CORSIA Sustainability Criteria as per ICAO Annex 16 Vol. IV.

Domestic Flight. The operation of an aircraft from take-off at an aerodrome of a State or its territories, and landing at an aerodrome of the same State or its territories.

Emission Unit: An emissions unit represents one metric tonne of carbon dioxide equivalent.

Flight plan. Specified information relative to an intended flight or portion of a flight of an aircraft.

Fuel uplift. Measurement of fuel provided by the fuel supplier, as documented in the fuel delivery notes or invoices for each flight (in litre).

Great Circle Distance. The shortest distance, rounded to the nearest kilometre, between the origin and the destination aerodromes, measured over the earth's surface modelled according to the World Geodetic System 1984 (WGS84).

Note: Latitude and longitude coordinates of aerodromes can be obtained from the ICAO Location Indicators database.

International flight. The operation of an aircraft from take-off at an aerodrome of a State or its territories, and landing at an aerodrome of another State or its territories.

National accreditation body. A body authorized by a State which attests that a verification body is competent to provide specific verification services.

New entrant. Any aeroplane operator that commences an aviation activity falling within the applicability of this Regulation on or after its entry into force and whose activity is not in whole or in part a continuation of an aviation activity previously performed by another aeroplane operator.

Operator. The person, organization or enterprise engaged in or offering to engage in an aircraft operation.

Reporting period. A period which commences on 1 January and finishes on 31 December in a given year for which an aeroplane operator or State reports required information. The flight departure time (UTC) determines which reporting period a flight belongs to.

State pair. A group of two States composed of a departing State or its territories and an arrival State or its territories.

Verification body. A legal entity that performs the verification of an Emissions Report and, when required, an Emissions Unit Cancellation Report(EUCR), as an accredited impartial third party.

Verification report. A document, drafted by the verification body, containing the verification opinion, and required supporting information.

(b) where the following abbreviations and units are used in this Regulation, they have the meanings ascribed to them below:

AOC Air operator certificate

CERT CO_2 Estimation and Reporting Tool

CO2 Carbon dioxide

CO2e Carbon dioxide equivalent

CORSIA Carbon Offsetting and Reduction Scheme for International Aviation GHG Greenhouse gases

EMP Emission Monitoring Plan

EUCR Emissions Unit Cancellation Report

IEC International Electrotechnical Commission

ISO International Organization for Standardization

MJ Megajoule

MRV Monitoring, Reporting and Verification

SARPs Standards and Recommended Practices

SGF Sector's Growth Factor

Non-SI units

The non-SI units listed in Table 1 shall be used either in lieu of, or in addition to, SI units as primary units of measurement under this Regulation.

Specific quantity	*Unit*	*Symbol*	*Definition (in terms of SI units)*
Mass	Tonne	t	$1\ t = 10^3\ kg$
Time	Hour	h	$1\ h = 60\ min = 3\ 600\ s$
Volume	Litre	L	$1\ L = 1\ dm^3 = 10^{-3}\ m^3$

Table 1 - Non-SI units for use with SI

Article 2 – Aeroplane operator attributed to the Sultanate of Oman

The aeroplane operator is considered attributed to the Sultanate of Oman under this Regulation in the following cases:

(a) Where the aeroplane operator has an International Civil Aviation Organisation (ICAO) Designator, which is notified by the Sultanate of Oman;

(b) Where the aeroplane operator does not possess an ICAO Designator, but has a valid air operator certificate (AOC) or equivalent, issued by the Sultanate of Oman; or

(c) Where the aeroplane operator does not possess an ICAO Designator or AOC but is registered as juridical person in the Sultanate of Oman. This also applies where the aeroplane operator is a natural person having residence and registration in the Sultanate of Oman.

(d) If the aeroplane operator changes its ICAO Designator, AOC (or equivalent) or place of juridical registration, and is subsequently attributed to another State, but it is not establishing a new entity or a subsidiary, then this other State becomes the State to which the aeroplane operator fulfils its requirements under ICAO Annex 16 Volume IV (CORSIA) at the start of the next Compliance Period.

(e) The aeroplane operator with a wholly owned subsidiary aeroplane operator that is legally registered in the Sultanate of Oman can be treated as a single consolidated aeroplane operator liable for compliance with the requirements of this Regulation, subject to the approval of the CAA. Evidence shall be provided in the aeroplane operator's Emissions Monitoring Plan (refer to Subpart B) to demonstrate that the subsidiary aeroplane operator is wholly owned.

Article 3 – Applicability

(a) This Regulation shall be applicable to each aeroplane operator attributed to the Sultanate of Oman, that produce annual CO_2 emissions greater than threshold of 10,000 tonnes from the use of an aeroplane(s) with a maximum certificated take-off mass greater than 5,700 kg, conducting international flights, with the exception of humanitarian, medical and firefighting flights.

(b) This Regulation shall not be applicable to international flights, preceding or following a humanitarian, medical or firefighting flight provided such flights were conducted with the same aeroplane, and were required to accomplish the related humanitarian, medical or firefighting activities or to reposition thereafter the aeroplane for its next activity. The aeroplane operator shall provide supporting evidence of such activities to the verification body or, upon request, to the CAA.

(c) The Subpart B of this Regulation, shall be applicable to a new entrant aeroplane operator from the year after it meets the requirements in (a) above.

(d) From 1 January 2021 to 31 December 2035, the Subpart C of this Regulation shall be applicable to an airplane operator with international flights as defined in (a) above, between the States listed in the ICAO document entitles as "CORSIA States for Chapter 3 State Pairs".

(e) The Subpart C of this Regulation, shall not be applicable to a new entrant aeroplane operator for three years starting in the year when they meet the requirements in (d), or until its annual CO_2 emissions exceed 0.1 per cent of total CO_2 emissions from international flights in 2019, as contained in the ICAO document entitled "CORSIA 2020 Emissions" that is available on the ICAO CORSIA website, whichever occurs earlier. The Subpart C shall then be applicable in the subsequent year.

AMC to Article 3(a) CO_2 emission threshold for applicability of MRV

(a) Aeroplane operators that meet the conditions defined in Article 3(a) except the specified threshold, should estimate (or monitor) their annual CO_2 emission for the purpose determining applicability of MRV requirements.

(b) With the approval of the CAA, an aeroplane operator may also decide to monitor its emissions in the year during which it meets or expects to meet the requirements in Article 3(a).

(c) An aeroplane operator which is close to the threshold defined in Article 3(a), should consider engaging with the CAA, to receive guidance on the preparation for compliance with this Regulation.

(d) An aeroplane operator that was within the scope of applicability of this Regulation the previous year, but falls outside of scope in the given year, should notify the CAA.

GM to Article 3(a) International Flights

(a) Domestic flights are not within the scope of applicability of this Regulation.

(b) Flights taking-off from or landing at an aerodrome of a State, or one of its territories, that is "not an ICAO Member State" are not within the scope of applicability of this Regulation.

(c) When considering whether a flight is international or domestic, aeroplane operator should use, the location indicator of the aerodromes. A list of aerodromes and the State they are attributed to can be found on ICAO Doc 7910 — Location Indicators.

(d) Below figure is the process flowchart on the determination of the applicability of MRV requirements.

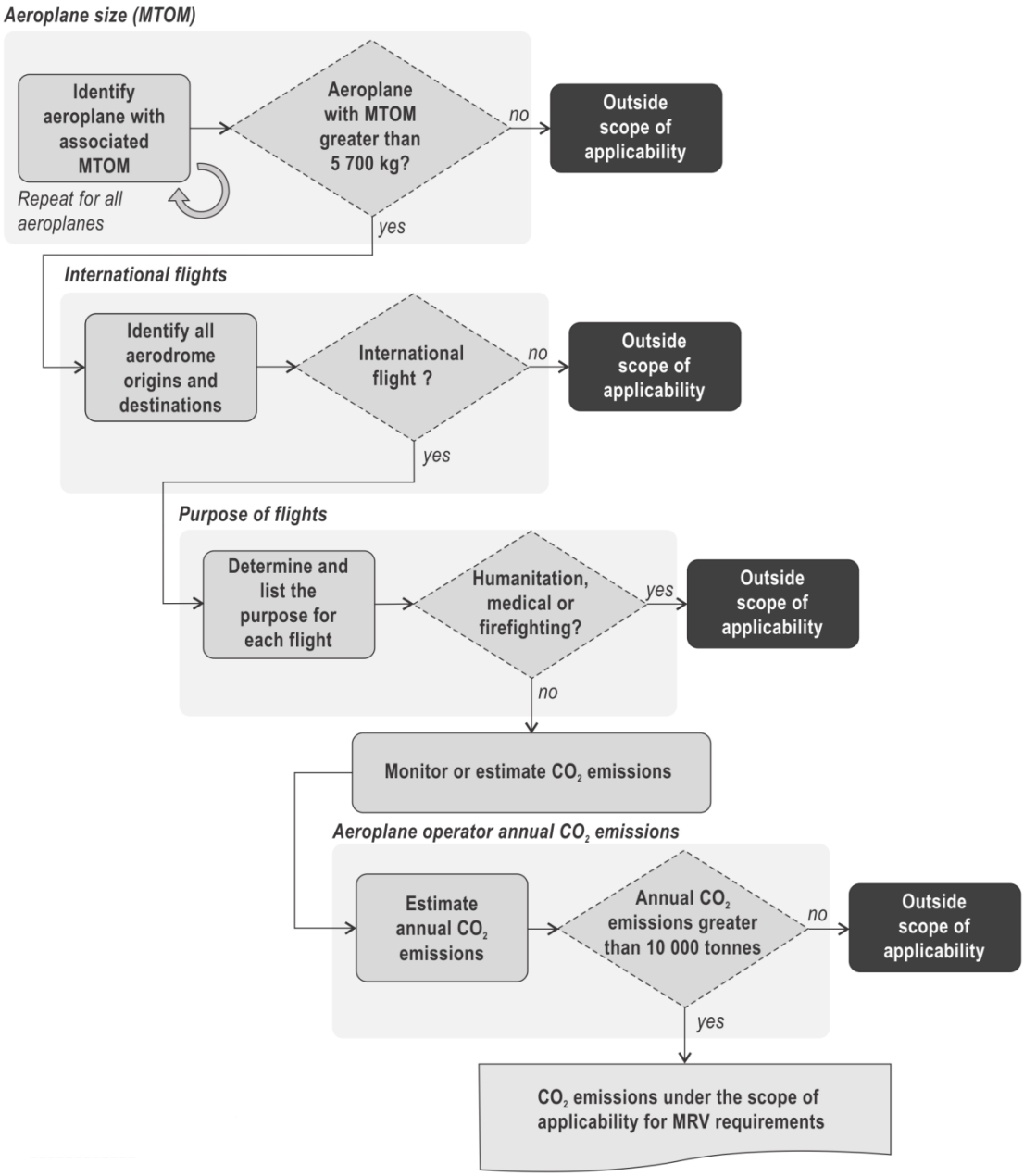

Figure 1 Determination of the applicability of MRV to international flights

AMC to Article 3(c)&(e) New entrants

(a) New entrant is an aeroplane operator exceeds the threshold specified in Article 3(a) (10,000 tonnes) for the first time in any given year (after 2019), which is entry year, provided that both of the following conditions are met in such year:

(1) The aeroplane operator has not been within the scope of applicability of this Regulation in any year from 2019 preceding the entry year; and

(2) None of the aviation activities performed by the aeroplane operator are determined to be the continuation of activities previously performed by another aeroplane operator.

(b) An aeroplane operator claiming to be a new entrant should provide evidence to the CAA that its activities are sufficiently independent from any other operator subject to this Regulation, and not a continuation of the activities of another operator it is related to.

GM to AMC to Article 3(c)&(e) Continuation of Aviation Activities

(a) The following conditions should be checked to determine whether an activity of a potential new entrant aeroplane operator would be deemed the continuation of an activity previously performed by another aeroplane operator, where activity is understood to mean the operation of one or more flights on a specific State pair as identified by the departing and arriving aerodrome pairs:

(1) The activity has been operated by the potential new entrant in the 12 months starting from the month in which its CO_2 emissions has exceeded 10,000 tons, and has also been performed by one or several other aeroplane operator(s) during the same 12 months or during the 6 preceding months, irrespective of whether any such aeroplane operator was subject to CORSIA or not;

(2) The activity was operated by another aeroplane operator that had a business relationship with the potential new entrant, such as being in a parent-subsidiary relationship or part of a common holding; or the activity was operated by another aeroplane operator that in such timeframe was subject of a financial operation by the potential new entrant, such as a partial or complete acquisition or merger including the case of bankruptcy of the previous aeroplane operator.

(b) In this context, “aviation activities” should be interpreted broadly as referring to the operation of aeroplanes on international flights subject to CORSIA, without consideration of whether they are performed on identical State pairs or aerodrome pairs.

In this context, there is only a continuation of aviation activities when:

(1) the two aeroplane operators are closely integrated from a corporate structure perspective; or

(2) the baseline emissions of the former operator would be transferred to the new operator.

The first situation would include, for example, operators being part of the same holding company, or operators in a parent-subsidiary relationship; it would not include non-corporate commercial relationships such as codeshares. The second situation would, for example, include the transfer of activities after a bankruptcy, liquidation, a merger or an acquisition.

(c) The determination of whether an activity is the continuation of another activity, the following elements should be considered in making that determination:

- Is the new operator to which the activity is transferred part of a holding company which controls other operators subject to this Regulation, or a subsidiary of another operator subject to this Regulation?
- Will the new operator have any CORSIA reference emissions?

- Are the activities of the new operator an extension of the aviation activities of a larger corporation subject to this Regulation?
- Are the activities of the new operator a transfer of activities between two parent operators that are subject to this Regulation?
- Are the activities of the new operator a combination of the activities between two or more existing operators subject to this Regulation occasioned by a merger or acquisition?

If one of the above situations, or a similar type of situation, applies to a new aeroplane operator, then this may be a continuation of aviation activities and the CAA should make an informed decision as to the operator's entitlement to the new entrant provisions.

GM to Article 3(c)&(e) Example for a New Entrant Scenario

(a) In the application of Article 3(c), a new entrant will have to monitor its emissions from 1 January from the year after it meets the requirements in Article 3 (a) & (b) and submit an Emissions Monitoring Plan at the latest by 31 March of the year (CORSIA.200) when it begins monitoring.

(b) For illustration, the below timeline would apply to an aeroplane operator that exceeds the annual CO_2 emissions threshold of 10,000 tons in 2026 and is considered a new entrant:

(1) The exemption period for the new entrant begins from 1 January 2026;

(2) New entrant may monitor its CO_2 emissions in 2026;

(3) it will monitor its emissions from 1 January 2027 and submit an Emissions Monitoring Plan at the latest by 31 March 2027;

(4) It will verify and report its CO_2 emissions in 2028;

(5) The first year for which the aeroplane operator is subject to offsetting requirements is 2029 (full calendar year);

(6) If in 2027 the new entrant exceeds the exemption threshold of 0.1 per cent of total CO_2 emissions from international flights in 2019, the first calendar year for which the aeroplane operator is subject to offsetting requirements is 2028.

AMC to Article 3(e) Offsetting requirements for new entrants

A new entrant aeroplane operator should review its emissions against the 0.1 percent threshold of total CO_2 emissions from international flights in 2019 on an annual basis during the provisional three-year new entrant offsetting exception period and assess whether it has offsetting requirements in the subsequent year in accordance with Article 3(e).

Article 4 – Repeal

The below CAA requirements shall be repealed from the time this Regulation enters into force:

(a) CAN-39 paragraphs 39.10 – 39.27, which were introduced in accordance with Annex 16, Volume IV, Chapter 2 (CORSIA CERT).

(b) Any other requirements that are contrary to this Regulation.

Article 5 – Entry into Force

This regulation shall come into force from the day of its publication and shall be applicable 1st March 2025.

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PART I – AEROPLANE OPERATOR REQUIREMENTS

SUBPART A — GENERAL REQUIREMENTS

CORSIA.100 Attribution of international flights to an aeroplane operator

(a) The aeroplane operator shall identify international flights, according to the approach in (b) below. Two or more consecutive flights operated under the same flight number are considered as separate flights for the purposes of this Regulation.

(b) The attribution of a specific international flight to an aeroplane operator shall be determined as follows:

(1) **ICAO Designator:** When Item 7 (aircraft identification) of the flight plan contains the ICAO Designator, that flight shall be attributed to the aeroplane operator that has been assigned this Designator.

Note 1: ICAO Designators are contained in Doc 8585 — Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services.

Note 2: The reference to Item 7 is based on the ICAO model flight plan form contained in Appendix 2 of Doc 4444 — Procedures for Air Navigation Services — Air Traffic Management.

(2) **Registration marks:** When Item 7 (aircraft identification) of the flight plan contains the nationality or common mark, and registration mark of an aeroplane that is explicitly listed in an AOC (or equivalent), that flight shall be attributed to the aeroplane operator that holds the AOC (or equivalent); and

(3) **Other:** When the aeroplane operator of a flight has not been identified via (1) or (2) above, that flight shall be attributed to the aeroplane owner who shall then be considered the aeroplane operator.

(c) If requested by the CAA, the aeroplane owners identified via (b)(3) above shall provide all information necessary to identify the actual aeroplane operator of a flight.

GM to CORSIA.100 Attribution of international flights to an aeroplane operator

An illustration on the process for attributing a flight to an aeroplane operator is shown in below figure:

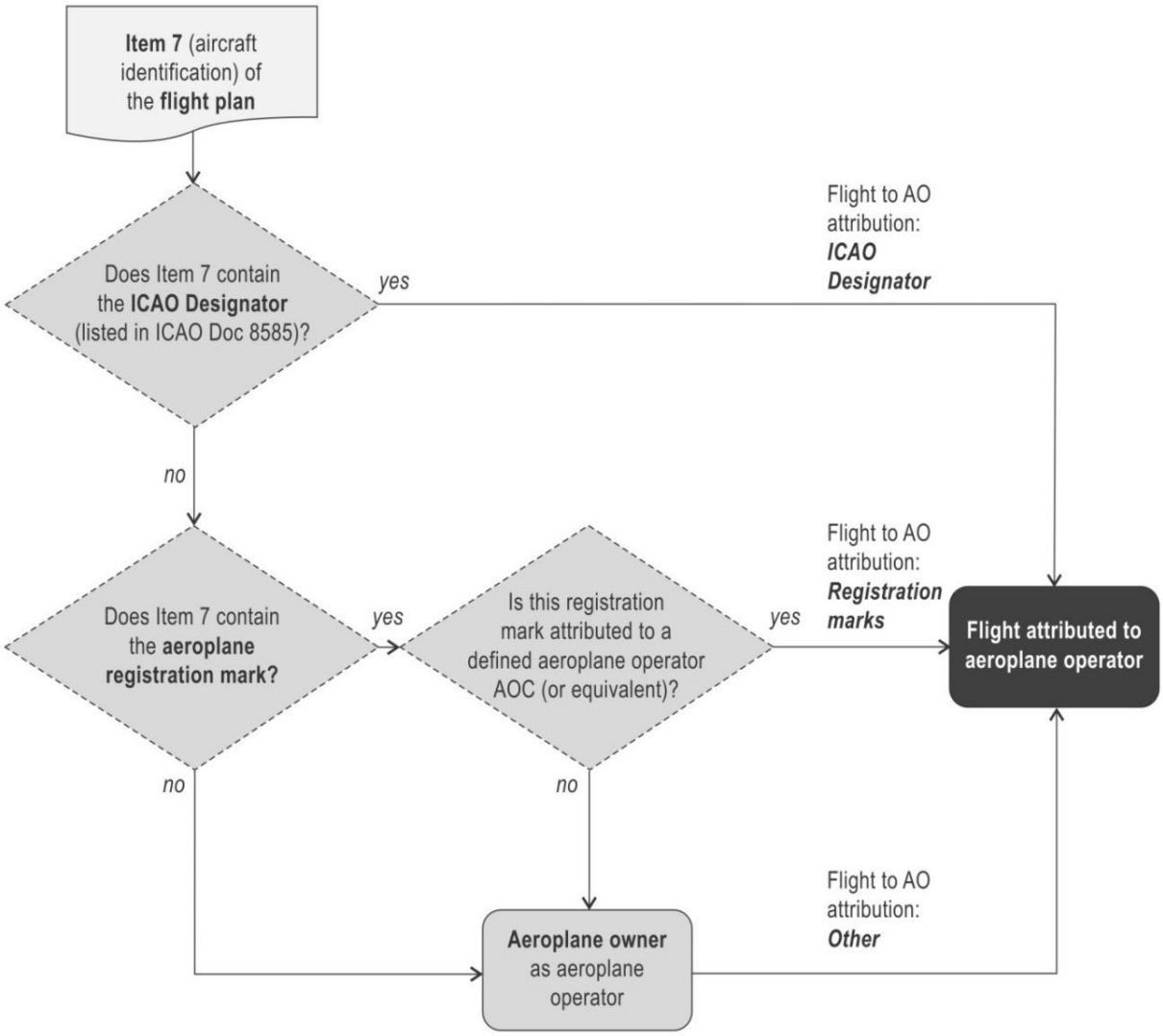

Figure 2 Process for attribution of a flight to an aeroplane operator

CORSIA.105 Aeroplane Operator Delegation of Administrative Requirements

(a) The aeroplane operator subject to the approval of the CAA may, by contract, delegate the administrative obligations under this Regulation to a third party contractor.

(b) The third-party contractor shall not be the entity which conduct verification services as prescribed in CORSIA.240, CORSIA.245 and CORSIA.410 for the aeroplane operator.

(c) Liability for compliance with this Regulation shall remain with the aeroplane operator in all situations for the delegation referred to in points (a) and (b).

CORSIA.110 Record Keeping

The aeroplane operator shall keep records relevant to demonstrating compliance with this Regulation for a period of 10 years.

CORSIA.115 Compliance with this Regulation/enforcement actions

If the CAA finds that any aeroplane operator under the applicability of this Regulation fails to fulfil the requirements of this Regulation, then the CAA may take appropriate enforcement action as necessary.

CORSIA.120 Equivalent Procedures

(a) Aeroplane operator before using equivalent procedures shall demonstrate that those procedures meet the requirements stipulated in this Regulation.

(b) The use of equivalent procedures in lieu of the procedures specified in this Regulation must be approved by the CAA.

SUBPART B — MONITORING, REPORTING, AND VERIFICATION (MRV) OF AEROPLANE OPERATOR ANNUAL CO_2 EMISSIONS

SECTION I — MONITORING OF CO_2 EMISSIONS AND CORSIA ELIGIBLE FUELS

CORSIA.200 Emission Monitoring Plan (EMP)

(a) The aeroplane operator shall submit an EMP, for approval, in the form and manner prescribed by the CAA.

(b) The EMP shall contain the information as defined in Appendix 4 of this Regulation.

(c) A new entrant shall submit an EMP to the CAA within three months of falling within the scope of applicability of this Regulation**.**

(d) The aeroplane operator shall resubmit the EMP to the CAA for approval, if a material change is made to the information contained within the EMP.

(e) If the EMP is determined to be incomplete and/or inconsistent with the Appendix 4 of this Regulation, the aeroplane operator shall resolve outstanding issues in accordance with the form and manner as prescribed by the CAA .

GM to CORSIA.200 (a) Approval of the Emission Monitoring Plan

(a) The aeroplane operator should engage with the CAA well before falling into scope and include the development of the EMP as part of any planning process for situations such as mergers, splits, subsidiary development, expanding from domestic to international operations, or other change in status or activity which may cause them to fall into the scope of applicability of this Regulation.

(b) An EMP template provided by the CAA to be used by aeroplane operators. This template could be found on the CAA's website.

(c) The CAA approval process will take two months from the time of receiving a complete EMP, unless unforeseen situation may prevent this.

AMC to CORSIA.200(d) Material Changes

Aeroplane operator should use the checklist provided in section 3 to the Appendix 4 of this Regulation to determine if a change is to be considered as material change or not.

GM to CORSIA.200 (d) Changes to the EMP

Any change to the EMP that could trigger one of the below situations (but not limited to) needs prior approval from the CAA:

(1) changes to the information presented in the EMP that would affect the status or eligibility of the aeroplane operator for an option under the emissions monitoring requirements of this Regulation; or

(2) changes that would affect the decision by the CAA on the aeroplane operator's conformity to the emissions monitoring requirements of this Regulation; or

(3) changes that would affect the CAA's oversight (e.g., change in corporate name or address), even if the changes do not affect the compliance with the relevant requirement.

CORSIA.205 Eligibility of Fuel Use Monitoring Methods

(a) The aeroplane operator with annual CO_2 emissions from international flights subject to offsetting requirements, of greater than or equal to 50 000 tonnes, shall use a Fuel Use Monitoring Method as described in Appendix 2 of this Regulation.

(b) The aeroplane operator with annual CO_2 emissions from international flights which are not subject to the (a), shall use either a Fuel Use Monitoring Method or the ICAO CORSIA CO_2 Estimation and Reporting Tool (CERT) as described in (Appendices 2 and 3) respectively.

(c) If the aeroplane operator's annual CO_2 emissions from international flights subject to offsetting requirements increases above the threshold of 50 000 tonnes in a given year (y), and also in the following year (y+1), the aeroplane operator shall submit an updated EMP by 30 September of year (y + 2). The aeroplane operator shall change to a Fuel Use Monitoring Method, on 1 January of year (y+3).

(d) If the aeroplane operator's annual CO_2 emissions from international flights subject to offsetting requirements decreases below the threshold of 50 000 tonnes in a given year (y), and also in the following year (y+1), the aeroplane operator may change monitoring method on 1 January of year (y+3). If the aeroplane operator chooses to change its monitoring method, it shall submit an updated Emissions Monitoring Plan by 30 September of year (y + 2).

(e) If the aeroplane operator does not have sufficient information to use a Fuel Use Monitoring Method, the CAA may, at its discretion, approve the use of the ICAO CORSIA CO_2 Estimation and Reporting Tool (CERT) for a period lasting no later than 30 June in the year after the aeroplane operator falls under the applicability of this Regulation (year y + 1).

(f) Following approval of the EMP, the aeroplane operator shall use the same eligible monitoring method for the entire Compliance Period. Any revision made to the approved monitoring method during any Compliance Period requires a prior approval from the CAA.

GM to CORSIA.205 Determination of fuel monitoring methods

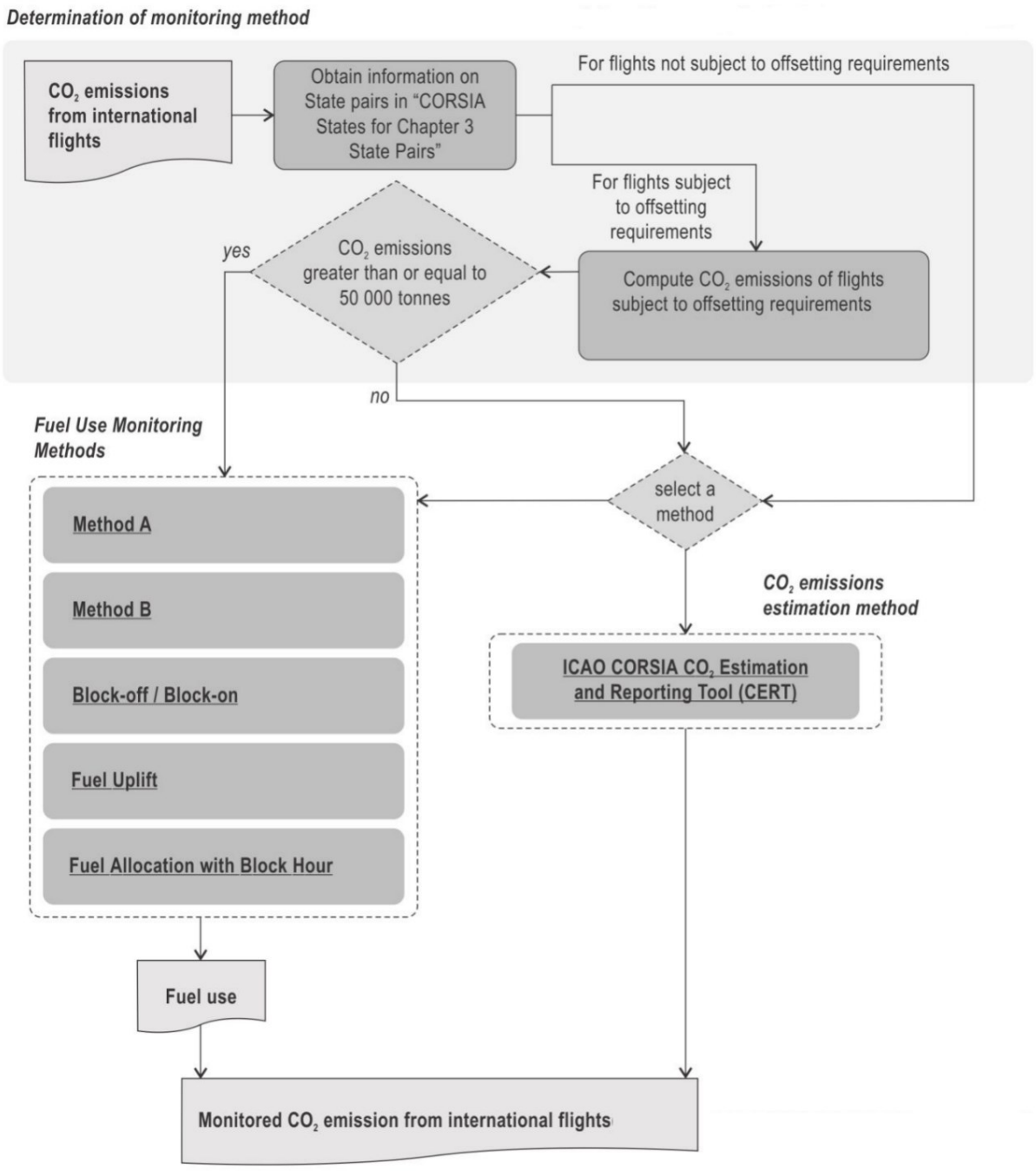

Figure 3 Determination of eligible Fuel Use Monitoring Methods during the Compliance Periods

Further guidance material on eligibility of monitoring methods, as well as on associated thresholds and related metrics, is provided in the Environmental Technical Manual (Doc 9501), Volume IV, Procedures for demonstrating compliance with the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

CORSIA.210 Calculation of CO_2 emissions from aeroplane fuel use

(a) The aeroplane operator shall apply a fuel density value to calculate fuel mass where the amount of fuel uplift is determined in units of volume.

(b) The aeroplane operator shall record the fuel density (which may be an actual or a standard value of 0.8 kg per litre) that is used for operational and safety reasons (e.g., in an operational, flight or technical log). The procedure for informing the use of actual or standard density shall be detailed in the EMP along with a reference to the relevant aeroplane operator documentation.

(c) The aeroplane operator using a Fuel Use Monitoring Method, as defined in Appendix 2, shall determine the CO_2 emissions from international flights using the following equation:

$$CO_2 = \sum_f M_f * FCF_f$$

Where:

CO_2 = CO_2 emissions (in tonnes);

M_f = Mass of fuel f used (in tonnes); and

FCF_f = Fuel conversion factor of given fuel f,

Fuel Type (f)	Fuel conversion factor for given fuel (f)
Jet-A fuel, Jet-A1 fuel TS-1 fuel, or No. 3 Jet fuel	3.16 (in kg CO_2/kg fuel),
AvGas or Jet-B fuel.	3.10 (in kg CO_2/kg fuel),

Table 2 - Fuel conversion factor of given fuel (f) for different types

Note: For the purpose of calculating CO_2 emissions the mass of fuel used includes all aviation fuels assuming that all fuels used are conventional fuels.

CORSIA.215 Monitoring of CORSIA eligible fuel claims

(a) The aeroplane operator that intends to claim for emissions reductions from the use of CORSIA eligible fuels shall use a CORSIA eligible fuel that meets the CORSIA Sustainability Criteria as defined within the ICAO document entitled "CORSIA Sustainability Criteria for CORSIA Eligible Fuels" that is available on the ICAO CORSIA website.

(b) The aeroplane operator that intends to claim for emissions reductions from the use of CORSIA eligible fuels shall only use CORSIA eligible fuels from fuel producers that are certified by an approved Sustainability Certification Scheme included in the ICAO document entitled "CORSIA Approved Sustainability Certification Schemes", that is available on the ICAO CORSIA website. Such certification schemes meet the requirements included in the ICAO document entitled

"CORSIA Eligibility Framework and Requirements for Sustainability Certification Schemes", that is available on the ICAO CORSIA website.

(c) If the aeroplane operator cannot demonstrate the compliance of the CORSIA eligible fuel with the CORSIA Sustainability Criteria, then the fuel shall not be accounted for as CORSIA eligible fuel.

(d) The emissions reductions from the use of a CORSIA eligible fuel are calculated as indicated in CORSIA.310 in the context of the calculation of the CO_2 offsetting requirements. These calculations use the approved life cycle emissions value *(L_{CEF})* for the CORSIA eligible fuel.

GM to CORSIA.215 Monitoring of CORSIA eligible fuel claims

(a) The provisions of this Subpart consider that aviation fuel supply chains are not segregated at aerodromes, and that CORSIA eligible fuels will be typically co-mingled at various points in the fuel supply infrastructure (e.g., pipelines, storage terminals, aerodrome fuel storage systems).

(b) The CORSIA eligible fuels purchased by a particular aeroplane operator may not be physically used in its aeroplane, and it will not be feasible to determine the specific CORSIA eligible fuel content at the point of uplift in an aeroplane. Claims of emissions reductions from the use of CORSIA eligible fuels by an aeroplane operator are based on mass of CORSIA eligible fuels according to purchasing and blending records.

(c) The emissions reductions from the use of a CORSIA eligible fuel are calculated as indicated in CORSIA.310 in the context of the calculation of the CO_2 offsetting requirements in Subpart C. These calculations use the approved life cycle emissions value (L_{CEF}) for the CORSIA eligible fuel. Information on emissions reductions from using CORSIA eligible fuel is included in the aeroplane operator's Emissions Report (Field 14 of table in Appendix 5), in accordance with CORSIA.230.

SECTION II — Reporting of CO_2 emissions and CORSIA eligible Fuels

CORSIA.220 Aeroplane operator CO_2 emissions reporting

(a) The aeroplane operator shall submit to the CAA, a copy of the verified Emissions Report for approval and a copy of the associated Verification Report in accordance with the timeline as defined in Appendix 1, in the form and manner prescribed by the CAA.

(b) The Emissions Report shall contain the information as defined in Appendix 5 of this Regulation. An aeroplane operator that uses the ICAO CORSIA CO_2 Estimation and Reporting Tool (CERT) is not required to report Field 6 of this Appendix.

(c) The level of aggregation of the number of aeroplane operator international flights and their associated CO_2 emissions within the Emission report shall be by state pair.

(d) When the aeroplane operator reports its consolidated CO_2 emissions from international flights, including subsidiary aeroplane operators, disaggregated data relating to each subsidiary aeroplane operator must be appended to the main Emissions Report.

GM to CORSIA.220 (b) Aeroplane operator's Emissions Report

An Emissions Report template provided by the CAA to be used by aeroplane operators. This template could be found on the CAA's website.

CORSIA.225 Treatment of confidential information

(a) In specific circumstances where the aeroplane operator operates a very limited number of State pairs, it may request in writing to the CAA that such data not be published at the aeroplane operator level explaining the reasons why disclosure would harm its commercial interests. Based on this request, the CAA will determine whether this data is confidential.

(b) In specific circumstances where aggregated State pair data may be attributed to an identified aeroplane operator as a result of a very limited number of aeroplane operators conducting flights on a State pair, that aeroplane operator may request in writing to the CAA that such data not be published at State pair level, explaining the reasons why disclosure would harm their commercial interests. Based on this request, the CAA will determine whether this data is confidential.

(c) In the application of (a) and/or (b), the annual CO_2 emissions of an aeroplane operator on a given State pair are considered as commercially sensitive if they are determined using a Fuel Use Monitoring Method.

CORSIA.230 Reporting of CORSIA eligible fuels

(a) The aeroplane operator shall subtract CORSIA eligible fuels traded or sold to a third party from its total reported quantity of CORSIA eligible fuels.

(b) The aeroplane operator which participates in other greenhouse gas reductions schemes shall notify CAA of such participation. This notification will include a declaration that CORSIA

eligible fuels reported under this Regulation have not also been claimed under another greenhouse gas reduction scheme.

(c) The aeroplane operator may claim reduced emissions from using CORSIA eligible fuel in its Emissions Report. In order to make such claim, the aeroplane operator must provide supplementary information as described in the Appendix 6 of this Regulation. This information must originate at the blend point, and include fuel information from both the neat (unblended) fuel producer and the fuel blender.

(d) The aeroplane operator shall make CORSIA eligible fuel claims on an annual basis in order to ensure all documentation is dealt with in a timely manner. However, the aeroplane operator has the option to decide when to make a CORSIA eligible fuel claim within a given Compliance Period for all CORSIA eligible fuel received by a blender within that Compliance Period. For blending that occurs in the second half of the final year of a Compliance Period, the aeroplane operator and the CAA should determine what, if any, flexibility is needed in terms of submitting reports.

(e) If the aeroplane operator purchases fuel from a supplier downstream from the fuel blender (e.g., from a distributor, another aeroplane operator, or an aerodrome-based fuel distributor), all of the requisite documentation in order for the emissions reductions from the use of CORSIA eligible fuels to be claimed, shall be obtained by the aeroplane operator from this fuel supplier, to be provided in accordance with Subpart C.

SECTION III — Verification of CO_2 emissions

CORSIA.240 Verification of an aeroplane operator's Emissions Report

(a) The aeroplane operator shall engage a verification body for the verification of its annual Emissions Report.

(b) Following the verification of the Emissions Report by the verification body, the aeroplane operator and the verification body shall both independently submit, a copy of the verified Emissions Report and associated Verification Report to the CAA, in accordance with the timeline as defined in Appendix 1 of this Regulation, and in the form and manner prescribed by the CAA.

AMC to CORSIA.240 Verification of an aeroplane operator's Emissions Report

(a) The aeroplane operator before engaging the verification body, should ensure their accreditation status by an ICAO member state. The list of accredited verification bodies, included within the ICAO document entitled "CORSIA Central Registry (CCR): Information and Data for Transparency" that is available on the ICAO CORSIA website.

(b) The aeroplane operator should perform an internal pre-verification of its Emissions Report prior to the verification by a verification body, using the checklist provided in Section 1 of the Appendix 7 of this Regulation.

(c) The aeroplane operator should ensure the verification body submits independently a copy of verified Emission Report and associated Verification Report to the CAA.

GM to CORSIA.240 Accreditation of Verification Bodies

(a) A verification body to be accredited by an ICAO Member State in compliance with ISO/IEC 17029:2019*, ISO 14065:2020** and the relevant requirements in Environmental Technical Manual (Doc 9501), Volume IV as amended, in order to be eligible to verify the Emissions Report of an aeroplane operator.

* *ISO/IEC 17029:2019 entitled "Conformity assessment — General principles and requirements for validation and verification bodies."*

** *ISO 14065:2020 entitled "General principles and requirements for bodies validating and verifying environmental information."*

(b) Verification body to be accredited by an ICAO Member State, conduct the verification according to ISO 14064-3:2019***, and the relevant requirements in Section 3 of Appendix 6 of the ICAO Annex 16 Vol. IV.

*** *ISO 14064-3:2019 entitled "Greenhouse gases — Part 3: Specification with guidance for the verification and validation of greenhouse gas statements."*

CORSIA.245 Verification of CORSIA eligible fuels

(a) Fuel purchases, transaction reports, fuel blending records and sustainability credentials shall constitute the documentary proof for the purpose of verification and approval of emissions reductions from the use of CORSIA eligible fuels.

(b) The aeroplane operator shall ensure that it, or its designated representative, has audit rights of the production records for the CORSIA eligible fuels that it purchases.

AMC to CORSIA.245(b) Audit of the Fuel Producer

(a) The aeroplane operator should share the results of the audit with the fuel producer so that the producer may then make it available to other aeroplane operators seeking assurance on the fuel producer's internal processes.

(b) In order to ensure this capability exists, CORSIA eligible fuel procurement controls should seek to enable audit rights for fuel purchasers, aeroplane operators, or their designated representatives.

GM to CORSIA.245 Verification of CORSIA eligible fuels

The quality control assurances of CORSIA eligible fuel producers include declarations and/or process certifications, with periodic audits by verifiers, purchasers, or trusted entities. The process certifications, including the sustainability credentials, provide assurance that the CORSIA eligible fuel producer has established business processes to prevent double counting, and the periodic audits verify that the producer is following their established procedures. Purchasers and the CAA may elect to independently audit the production records of the CORSIA eligible fuel producer in order to provide further assurance.

CORSIA.250 Data gaps

(a) The aeroplane operator shall correct issues identified with the aeroplane operator's data and information management system in a timely manner to mitigate ongoing data gaps and system weaknesses.

(b) The aeroplane operator using a Fuel Use Monitoring Method shall fill a data gap by using the ICAO CORSIA CO_2 Estimation and Reporting Tool (CERT), provided that the data gaps during a Compliance Period do not exceed 5 percent of international flights subject to offsetting requirements.

(c) If the data gaps exceed the threshold in (b), then the aeroplane operator shall engage with the CAA to take remedial action to address this and shall state the percentage of international flights subject to offsetting requirements, that had data gaps, and provide an explanation to the CAA in their annual Emissions Report.

(d) The aeroplane operator shall fill all data gaps and correct systematic errors and misstatements prior to the submission of the Emissions Report.

GM to CORSIA.250 Data gaps

Guidance material on data gaps is provided in the Environmental Technical Manual (Doc 9501), Volume IV – Procedures for demonstrating compliance with the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

SUBPART C — CO_2 OFFSETTING REQUIREMENTS FROM INTERNATIONAL FLIGHTS AND EMISSIONS REDUCTIONS FROM THE USE OF CORSIA ELIGIBLE FUELS

CORSIA.300 Aeroplane Operator Offsetting Obligation

An aeroplane operator shall offset the amount of annual CO_2 emissions as calculated by the CAA (in accordance with CORSIA.920) based on the data reported in accordance with Subpart B, the applicability requirements in Article 3(d).

CORSIA.310 CO_2 Emissions reductions from the use of CORSIA eligible fuels

An aeroplane operator that intends to claim for emissions reductions from the use of CORSIA eligible fuels in a given year of a Compliance Period shall calculate these emissions reductions as follows:

$$ER_y = FCF * \left[\sum_f MS_{f,y} * \left(1 - \frac{L_{CEF}}{LC}\right)\right]$$

Where:

ERy = Emissions reductions from the use of CORSIA eligible fuels in the given year y (in tonnes);

FCF = Fuel conversion factor, equal to 3.16 kg CO_2/kg fuel for Jet-A fuel, Jet-A1 fuel, TS-1 fuel, or No. 3 Jet fuel and 3.10 kg CO_2/kg fuel for AvGas or Jet-B fuel;

$MS_{f,y}$ = Total mass of a neat CORSIA eligible fuel claimed in the given year y (in tonnes), as described and reported in Field 14.b of Emission Report (see Appendix 5);

L_{CEF} = Life cycle emissions value for a CORSIA eligible fuel (in gCO_2e/MJ); and

LC = Baseline life cycle emissions values for aviation fuel, equal to 89 gCO_2e/MJ for Jet-A fuel, Jet-A1 fuel, Jet-B fuel, TS-1 fuel, or No. 3 Jet fuel and equal to 95 gCO_2e/MJ for AvGas.

Note 1: The ratio $(1 - L_{CEF}/LC)$ is also referred to as the emissions reduction factor (ERF_f) of a CORSIA eligible fuel.

Note 2: For each of the CORSIA eligible fuels claimed, the total mass of the neat CORSIA eligible fuel claimed in the given year y needs to be multiplied by its emissions reduction factor (ERF_f). Then the quantities are summed for all CORSIA eligible fuels.

If a Default Life Cycle Emissions value is used, then the aeroplane operator shall use the ICAO document entitled "CORSIA Default Life Cycle Emissions Values for CORSIA eligible Fuels" that is available on the ICAO CORSIA website for the calculation in the (a) above. If an Actual Life Cycle Emissions value is used, then an approved Sustainability Certification Scheme shall ensure that the methodology, as defined in the ICAO document entitled "CORSIA Methodology for Calculating Actual Life Cycle Emissions Values" that is available on the ICAO CORSIA website, has been applied correctly.

SUBPART D — EMISSIONS UNITS

CORSIA.400 Cancelling CORSIA Eligible Emissions Units.

(a) Each aeroplane operator shall meet its offsetting requirements in a given Compliance Period (i.e., FORc) cancelling a quantity of CORSIA Eligible Emissions Units that is equal to its total final offsetting requirements as informed by the CAA according to CORSIA.925.

(b) For the purpose of the (a) above, the aeroplane operator shall use CORSIA Eligible Emissions Units that:

(1) meet the CORSIA Emissions Unit Eligibility Criteria; and

(2) are supplied by CORSIA Eligible Emissions Unit Programmes. The programme shall be:

i. approved by the ICAO Council; and

ii. acceptable to the CAA in accordance with prior authorisation issued for that aeroplane operator.

(c) To fulfil the provisions in (a) and (b), the aeroplane operator shall:

(1) Cancel CORSIA Eligible Emissions Units within a registry designated by a CORSIA Eligible Emissions Unit Programme by 31 January of the second calendar year following the last year of the Compliance Period or 60 days after the CAA informed the aeroplane operator of its total final offsetting requirements, whichever date comes later; and

(2) Request each CORSIA Eligible Emissions Unit Programme registry to make visible on the registry's public website, information on each of the aeroplane operator's cancelled CORSIA Eligible Emissions Units for a given Compliance Period, by 7 February of the second calendar year following the last year of the Compliance Period; and

(3) Such information for each cancelled CORSIA Eligible Emissions Unit shall include the consolidated identifying information in Field 5 of Emission Report, except fields: 5.j, 5.k and 5.m; as described in in Appendix 5 of this Regulation.

GM to CORSIA.400 Approved CORSIA Eligible Emissions Units

(a) The ICAO document entitled "CORSIA Eligible Emissions Units" that is available on the ICAO CORSIA website, contains CORSIA Eligible Emissions Unit Programmes that are approved by the ICAO Council to supply CORSIA Eligible Emissions Units. This document also identifies the registries designated by the said Programmes for the purpose of fulfilling the provisions set out in the CORSIA-related ICAO SARPs.

(b) The CORSIA Emissions Unit Eligibility Criteria used by ICAO contained in the ICAO document entitled "CORSIA Emissions Unit Eligibility Criteria" that is available on the ICAO CORSIA website.

(c) The CORSIA Eligible Emissions Units are determined by the Council, upon recommendation of a Technical Advisory Body (TAB) established by the Council, and meet the CORSIA Emissions

Unit Eligibility Criteria. The CORSIA Emissions Unit Eligibility Criteria are approved and may only be amended by the Council, with the technical contribution of Committee on Aviation Environmental Protection (CAEP), taking into account relevant developments in the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement. The emissions units generated from mechanisms established under the UNFCCC and the Paris Agreement are eligible for use in CORSIA, provided that they align with decisions by the Council with the technical contribution of CAEP, including on avoiding double counting and on eligible vintage and timeframe.

CORSIA.405 Aeroplane operator Emissions Unit Cancellation Reporting

(a) The aeroplane operator shall submit to the CAA, a copy of the verified EUCR for approval and a copy of the associated Verification Report in accordance with the timeline as defined in Appendix 1 of this Regulation, in the form and manner prescribed by the CAA.

(b) The EUCR shall contain the information as defined in Appendix 6 of this Regulation.

GM to CORSIA.405(b) Aeroplane operator's EUCR

An EUCR template provided by the CAA to be used by aeroplane operators. This template could be found on the CAA's website.

CORSIA.410 Verification of Emissions Unit Cancellation Report

(a) The aeroplane operator shall engage a verification body for the verification of its EUCR.

(b) If required by the verification body, the aeroplane operator shall provide access to relevant information on the Cancellation of Emissions Units.

(c) Following the verification of the EUCR by the verification body, the aeroplane operator and the verification body shall both independently submit a copy of the verified EUCR and associated Verification Report to the CAA, in accordance with the timeline in Appendix 1 of this Regulation, and in the form and manner prescribed by the CAA.

AMC to CORSIA.410 Verification of Emissions Unit Cancellation Report

(a) The aeroplane operator before engaging the verification body, should ensure their accreditation status by an ICAO member state. The list of accredited verification bodies, included within the ICAO document entitled “CORSIA Central Registry (CCR): Information and Data for Transparency” that is available on the ICAO CORSIA website.

(b) The aeroplane operator should perform an internal pre-verification of its Emissions Unit Cancellation Report prior to the verification by a verification body, using the checklist provided in Section 2 of the Appendix 7 of this Regulation.

(c) The aeroplane operator should ensure the verification body submits independently a copy of verified EUCR and associated Verification Report to the CAA.

GM to CORSIA.410(a) Selection of Verification Body

(a) The aeroplane operator may choose to use the same verification body engaged for the verification of its Emissions Report as per CORSIA.240.

(b) Verification body to be accredited by an ICAO Member State, conducts the verification according to ISO 14064-3:2019*, and the relevant requirements in Section 3 of Appendix 6 of the ICAO Annex 16 Vol. IV.

* *ISO 14064-3:2019 entitled "Greenhouse gases — Part 3: Specification with guidance for the verification and validation of greenhouse gas statements."*

APPENDIX 1 — APPLICABLE COMPLIANCE PERIODS AND TIMELINE

During the Compliance Periods as listed below, aeroplane operators and the CAA shall comply with the requirements according to the following MRV timeline and Offsetting timeline, where applicable:

Compliance Period	CAN3-39 MRV requirement	CAR-CORSIA MRV Requirement	CAR-CORSIA Offsetting Requirement	Cancellation Year
2019-2020	Applicable from 1 May 2020	-	-	-
2021-2023	Was Applicable	-	-	-
2024-2026	Applicable until 28 Feb 2025	Applicable from 1 March 2025	Applicable from 1 March 2025	2028
2027-2029	-	Applicable	Applicable	2031
2030-2032	-	Applicable	Applicable	2034
2033-2035	-	Applicable	Applicable	2037

MRV TIMELINE		
Compliance periods from1 March 2025	1st of January to 31st of December	The Aeroplane operator shall monitor, current year CO_2 emissions from international flights
	1st of January to 30th of April	The aeroplane operator shall compile prior year CO_2 emissions data to be verified by a verification body
	30th of April	The aeroplane operator and the verification body shall both independently submit the verified Emissions Report and associated Verification Report for prior year to the CAA
	1st of May to 31st of July	The CAA will conduct an order of magnitude check of the verified Emissions Report for the prior year.
	31st of July	The CAA will submit required information regarding CO_2 emissions for prior year to the ICAO
	1st of August	Th CAA shall obtain and use the ICAO document entitled “CORSIA States for Chapter 3 State Pairs” applicable for the next year compliance year
	31st of October	CAA shall obtain and use the Sector’s Growth Factor (SGF) from the ICAO document entitled “CORSIA Annual Sector’s Growth Factor (SGF)”

	30th of November	1) CAA shall calculate and inform aeroplane operators of their offsetting requirements for prior year, 2) CAA shall submit updates to the list of aeroplane operators that are attributed to the Sultanate of Oman to ICAO as well as updates to the list of verification bodies accredited in the Sultanate of Oman.

OFFSETTING TIMELINE		
2028, for 2024-2026 period **2031**, for 2027-2029 period	31st of January or 60 days after the CAA informs aeroplane operators of their total final offsetting requirements for the Compliance Period, whichever date comes later	The aeroplane operator shall cancel emissions units for compliance during the Compliance Period
2034, for 2030-2032 period	7th of February of the second calendar year following the last year of the Compliance Period	The aeroplane operator shall request that their cancellation of CORSIA Eligible Emissions Units for the Compliance Period is communicated on the respective CORSIA Eligible Emissions Unit Programme registry (or registries) public website(s)
2037, for 2033-2035 period	1st of December of prior year to 30th of April of current year	The aeroplane operator shall compile their EUCR covering the Compliance Period to be verified by a verification body,
	30th of April of the second calendar year following the last year of the Compliance Period	The aeroplane operator and the verification body shall both independently submit, the verified EUCR and associated Verification Report for the Compliance Period to the CAA
	31st of July of the second calendar year following the last year of the Compliance Period	The State shall report to ICAO the required information regarding emissions unit cancellation for the Compliance Period

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APPENDIX 2 — FUEL USE MONITORING METHODS

1. INTRODUCTION

Note. — The procedures specified in this Appendix are concerned with the monitoring of fuel use by aeroplane operators. The methods proposed are representative of the most accurate established practices.

Any equivalent procedures to those contained in this Appendix shall only be allowed after prior application to and approval by CAA.

2. FUEL USE MONITORING METHODS

2.1 The aeroplane operator, with the exception of an aeroplane operator eligible to use the ICAO CORSIA CO_2 Estimation and Reporting Tool (CERT), shall choose from the following fuel use monitoring methods:

a) Method A;

b) Method B;

c) Block-off / Block-on;

d) Fuel Uplift; or

e) Fuel Allocation with Block Hour.

2.2 Method A

2.2.1 The aeroplane operator shall use the following formula to compute fuel use according to Method A:

$$F_N = T_N - T_{N+1} + U_{N+1}$$

where:

F_N = Fuel used for the flight under consideration (= flight N) determined using Method A (in tonnes);

T_N = Amount of fuel contained in aeroplane tanks once fuel uplifts for the flight under consideration (i.e., flight N) are complete (in tonnes);

T_{N+1} = Amount of fuel contained in aeroplane tanks once fuel uplifts for the subsequent flight (i.e., flight N+1) are complete (in tonnes); and

U_{N+1} = Sum of fuel uplifts for the subsequent flight (i.e., flight N+1) measured in volume and multiplied with a density value (in tonnes).

Note 1. — See CORSIA.210 (a) and (b) for requirements on fuel density values.

Note 2. — Fuel uplift U_{N+1} is determined by the measurement by the fuel supplier, as documented in the fuel delivery notes or invoices for each flight.

Note 3. — For ensuring completeness of the data, it is important to note that not only data generated during the flight under consideration (i.e., flight N) is needed, but also data generated from the subsequent flight (i.e., flight N+1). This is of particular importance when a

domestic flight is followed by an international flight, or vice versa. In order to avoid data gaps, it is therefore recommended that the Block-on fuel or the amount of fuel in the tank after all fuel uplifts for a flight is always recorded on flights of aeroplanes which are used for international flights. For the same reasons, fuel uplift data for all flights of those aeroplanes should be collected, before deciding which flights are international.

2.2.2 For short term leasing where the previous or subsequent flight(s) (or both) is performed by another aeroplane operator, then the necessary data shall be acquired from the third party. When this information is not available, the use of block-on or block-off data is allowed.

2.2.3 Where no fuel uplift for the flight or subsequent flight takes place, the amount of fuel contained in aeroplane tanks (T_N or T_{N+1}) shall be determined at block-off for the flight or subsequent flight. In exceptional cases the variable T_{N+1} cannot be determined. This is the case when an aeroplane performs activities other than a flight, including undergoing major maintenance involving the emptying of the tanks, after the flight to be monitored. In such case the aeroplane operator may substitute the quantity "$T_{N+1} + U_{N+1}$" with the amount of fuel remaining in tanks at the start of the subsequent activity of the aeroplane or fuel in tanks at Block-on, as recorded by technical logs.

2.3 Method B

2.3.1 The aeroplane operator shall use the following formula to compute fuel use according to Method B:

$$F_N = R_{N-1} - R_N + U_N$$

where:

F_N = Fuel used for the flight under consideration (i.e., flight N) determined using Method B (in tonnes);

R_{N-1} = Amount of fuel remaining in aeroplane tanks at the end of the previous flight (i.e., flight N– 1) at Block-on before the flight under consideration, (in tonnes);

R_N = Amount of fuel remaining in aeroplane tanks at the end of the flight under consideration (i.e., flight N) at Block-on after the flight, (in tonnes); and

U_N = Fuel uplift for the flight considered measured in volume and multiplied with a density value (in tonnes).

Note 1. — See CORSIA.210 (a) and (b) for requirements on fuel density values.

Note 2. — Fuel uplift is determined by the measurement by the fuel supplier, as documented in the fuel delivery notes or invoices for each flight.

Note 3. — For ensuring completeness of the data, it is important to note that not only data generated during the flight under consideration (i.e., flight N) is needed, but also data generated from the previous flight (i.e., flight N-1). This is in particular important when a domestic flight is followed by an international, or vice versa. For avoiding data gaps it is therefore recommended that, the amount of fuel remaining in the tank after the flight or the amount of fuel in the tank after fuel uplift is always recorded on flights of aeroplane which are used for international flights. For the same reasons, fuel uplift

data for all flights of those aeroplane should be collected, before deciding which flights are international.

2.3.2 For short term leasing where the previous or subsequent flight(s) (or both) is performed by another aeroplane operator, then the necessary data shall be acquired from the third party. When this information is not available, the use of block-on or block-off data is allowed.

2.3.3 Where an aeroplane does not perform a flight previous to the flight for which fuel consumption is being monitored (e.g., if the flight follows a major revision or maintenance), the aeroplane operator may substitute the quantity RN-1 with the amount of fuel remaining in aeroplane tanks at the end of the previous activity of the aeroplane, as recorded by technical logs.

2.4 Block-off / Block-on

2.4.1 The aeroplane operator shall use the following formula to compute fuel use according to the Block-off / Block-on Method:

$$F_N = T_N - R_N$$

where:

F_N = Fuel used for the flight under consideration (=flight N) determined using Block-off / Block- on Method (in tonnes);

T_N = Amount of fuel contained in aeroplane tanks at Block-off for the flight under consideration i.e., flight N (in tonnes); and

R_N = Amount of fuel remaining in aeroplane tanks at Block-on of the flight under consideration i.e., flight N (in tonnes).

2.5 Fuel Uplift

2.5.1 For flights with a fuel uplift unless the subsequent flight has no uplift, the aeroplane operator shall use the following formula to compute fuel use according to the Fuel Uplift Method:

$$F_N = U_N$$

where:

F_N = Fuel used for the flight under consideration (i.e., flight N) determined using fuel uplift (in tonnes); and

U_N = Fuel uplift for the flight considered, measured in volume and multiplied with a density value (in tonnes).

Note 1. — See CORSIA.210 (a) and (b) for requirements on fuel density values.

2.5.2 For flight(s) without a fuel uplift (i.e., flight N+1, …, flight N+n,), the aeroplane operator shall use the following formula to allocate fuel use from the prior fuel uplift (i.e., from flight N) proportionally to block hour:

$$F_N = U_N * \left[\frac{BH_N}{BH_N + BH_{N+1} + \cdots + BH_{N+n}}\right]$$

$$F_{N+1} = U_N * \left[\frac{BH_{N+1}}{BH_N + BH_{N+1} + \cdots + BH_{N+n}}\right]$$

…

$$F_{N+n} = U_N * \left[\frac{BH_{N+n}}{BH_N + BH_{N+1} + \cdots + BH_{N+n}}\right]$$

where:

F_N = Fuel used for the flight under consideration (i.e., flight N) determined using fuel uplift (in tonnes);

F_{N+1} = Fuel used for the subsequent flight (i.e., flight N+1) determined using fuel uplift (in tonnes);

…

F_{N+n} = Fuel used for the follow-on flight (i.e., flight N+n) determined using fuel uplift (in tonnes);

U_N = Fuel uplift for the flight under consideration (i.e., flight N) (in tonnes);

BH_N = Block hour for the flight under consideration (i.e., flight N) (in hours);

BH_{N+1} = Block hour for the subsequent flight (i.e., flight N+1) (in hours); and

…

BH_{N+n} = Block hour for the follow-on flight (i.e., flight N+n) (in hours).

Note. — Fuel uplift is determined by the measurement by the fuel supplier, as documented in the fuel delivery notes or invoices for each flight.

2.6 Fuel Allocation with Block Hour

2.6.1 Computation of average fuel burn ratios

2.6.1.1 For an aeroplane operator which can clearly distinguish between international and domestic fuel uplifts, the aeroplane operator shall compute, for each aeroplane type, the average fuel burn ratios by summing up all actual fuel uplifts determined by using the Fuel Use Monitoring Method Fuel Uplift from international flights, divided by the sum of all actual block hours from international flights for a given year, according to the following formula:

$$AFBR_{AO,AT} = \frac{\sum_N U_{AO,AT,N}}{\sum_N BH_{AO,AT,N}}$$

where:

$AFBR_{AO, AT}$	=	Average fuel burn ratios for aeroplane operator (AO) and aeroplane type (AT) (in tonnes per hour);
$U_{AO, AT, N}$	=	Fuel uplifted for the international flight N for aeroplane operator (AO) and aeroplane type (AT) determined using the Fuel Use Monitoring Method Fuel Uplift (in tonnes); and
$BH_{AO, AT, N}$	=	Block hour for the international flight N for aeroplane operator (AO) and aeroplane type (AT) (in hours).

2.6.1.2 For an aeroplane operator which cannot clearly distinguish between international and domestic fuel uplifts, the aeroplane operator shall compute, for each aeroplane type, the average fuel burn ratios by summing up all actual fuel uplifts from international and domestic flights divided by the sum of all actual block hours from these flights for a given year, according to the following formula:

$$AFBR_{AO,AT} = \frac{\sum_N U_{AO,AT,N}}{\sum_N BH_{AO,AT,N}}$$

where:

$AFBR_{AO, AT}$	=	Average fuel burn ratios for aeroplane operator (AO) and aeroplane type (AT) (in tonnes per hour);
$U_{AO, AT, N}$	=	Fuel uplifted for the international or a domestic flight N for aeroplane operator (AO) and aeroplane type (AT) measured in volume and multiplied with a specific density value (in tonnes); and
$BH_{AO, AT, N}$	=	Block hour for the international and domestic flight N for aeroplane operator (AO) and aeroplane type (AT) (in hours).

2.6.1.3 An aeroplane operator specific average fuel burn ratio shall be calculated on a yearly basis by using the yearly data from the actual reporting year. The average fuel burn ratios shall be reported, for each aeroplane type, in the aeroplane operator's Emissions Report.

Note 1. — See CORSIA.210 (a) and (b) for requirements on fuel density values.

Note 2. — Aeroplane types are contained in Doc 8643 — Aircraft Type Designators.

2.6.2 Computation of fuel use for individual flights

2.6.2.1 The aeroplane operator shall compute the fuel consumption for each international flight by multiplying the aeroplane operator specific average fuel burn ratios with the flight's block hour according to the following formula:

$$F_N = AFBR_{AO, AT} * BH_{AO, AT, N}$$

where:

F_N = Fuel allocated to the international flight under consideration (i.e., flight N) using the Fuel Allocation Block Hour method (in tonnes);

$AFBR_{AO, AT}$ = Average fuel burn ratios for aeroplane operator (AO) and aeroplane type (AT) (in tonnes per hour); and

$BH_{AO, AT, N}$ = Block hour for the international flight under consideration (=flight N) for aeroplane operator (AO) and aeroplane type (AT) (in hours).

Note 1. — Fuel uplift is determined by the measurement by the fuel supplier, as documented in the fuel delivery notes or invoices for each flight.

Note 2. — Average fuel burn ratio (AFBR) based on all flights for a reporting year and rounded to at least three decimal places.

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APPENDIX 3 — CO_2 EMISSIONS ESTIMATION AND REPORTING METHODS AND TOOLS

1. INTRODUCTION

Note 1.— The procedures specified in this Appendix are concerned with the estimation of CO_2 emissions by an aeroplane operator for the purposes of monitoring CO_2 emissions and filling data gaps. The methods and tools proposed are representative of most accurate established practices.

Note 2.— The ICAO CORSIA CO_2 Estimation and Reporting Tool (CERT) can be obtained from the ICAO document entitled "ICAO CORSIA CO_2 Estimation and Reporting Tool" for use in a given year. The CERT can be found on the ICAO CORSIA website.

2. ICAO CORSIA CO_2 ESTIMATION AND REPORTING TOOL (CERT)

2.1 Use of the ICAO CORSIA CERT for complying with monitoring and reporting requirements

Note 1.— The ICAO CORSIA CERT is developed for and made available to aeroplane operators to support the monitoring and reporting of their CO_2 emissions. The CERT supports aeroplane operators in fulfilling their monitoring and reporting requirements by populating the standardized Emissions Monitoring Plan and Emissions Report templates provided in Appendix 1 of the Environmental Technical Manual (Doc 9501), Volume IV – Procedures for demonstrating compliance with the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). This support includes:

a) assessing its eligibility to use the CERT, as defined in Appendix 3, in support of their Emissions Monitoring Plan (e.g., CO_2 emissions threshold requirements);

b) assessing whether or not it is within the applicability scope of Subpart B MRV requirements; and

c) filling any CO_2 emissions data gaps.

Note 2.— The ICAO CORSIA CERT is also made available to States to support order of magnitude checks and fill any CO_2 emissions data gaps as described in CORSIA.250.

2.1.1 The aeroplane operator shall use the ICAO CORSIA CO_2 Estimation and Reporting Tool (CERT) according to the eligibility criteria as described in Subpart B (MRV requirements) and upon approval by the CAA.

2.1.2 The aeroplane operator shall use either the (1) Block Time input method or (2) the Great Circle Distance input method to enter the necessary information into the CERT.

2.1.3 The aeroplane operator approved to use the Block Time input method shall collect the following data and shall enter it into the CERT to estimate its CO_2 emissions during the compliance year:

a) ICAO aircraft type — model designator;

b) Origin aerodrome ICAO Designator;

c) Destination aerodrome ICAO Designator;

d) Block time (in hours);

e) Number of flights;

f) Date (optional); and

g) Flight ID (optional).

2.1.4 The aeroplane operator approved to use the Great Circle Distance input method shall collect the following data and shall enter it into the CERT to estimate its CO_2 emissions during the compliance year:

a) ICAO aircraft model - type designator;

b) Origin aerodrome;

c) Destination aerodrome;

d) Number of flights;

e) Date (optional); and

f) Flight ID (optional).

Note 1.— The ICAO aircraft type — model designators are contained in Doc 8643 — Aircraft Type Designators.

Note 2.— The origin aerodrome and destination aerodrome designators are contained in Doc 7910 — Location Indicators.

Note 3.— The ICAO CORSIA CERT will automatically compute Great Circle Distance based on the origin aerodrome and destination aerodrome.

2.2 Collection of data to develop and maintain the ICAO CO_2 estimation module used within the ICAO CORSIA CERT

2.2.1 The CAA may contribute to improving the ICAO CO_2 estimation module used within the ICAO CORSIA CERT by collecting flight level fuel burn data from aeroplane operators who are willing to share this information. In such case the Aeroplane operator data should include:

a) Date and time (in Universal Time Coordinated);

b) ICAO aircraft type — model designator;

c) Origin aerodrome ICAO Designator;

d) Destination aerodrome ICAO Designator;

e) Block hour (in hours to 2 decimal places);

f) Fuel used (in tonnes to at least 1 decimal place) based on a Fuel Use Monitoring Method as described in Appendix 2;

g) Type of Fuel Use Monitoring Method used;

h) Aircraft maximum certificated take-off mass (in kg); and

i) Flight Great Circle Distance (in km).

2.2.2 The CAA may share data with ICAO for continuous improvement of the ICAO CO_2 estimation module used within the ICAO CORSIA CERT. If the CAA shares data, then this will include:

a) Date and time (in Universal Time Coordinated);

b) Generic code to de-identify aeroplane operator information and allow integration of information;

c) ICAO aircraft type — model designator;

d) Flight Great Circle Distance (in km);

e) Block hour (in hours to 2 decimal places);

f) Fuel used (in tonnes to at least 1 decimal place based on a Fuel Use Monitoring Method as described in Appendix 2; and

g) Type of Fuel Use Monitoring Method used.

2.2.3 The CAA shall anonymize the aeroplane operator data shared with ICAO under 2.2.2, if data is shared as per 2.2.2.

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APPENDIX 4 — CONTENT OF AN EMISSIONS MONITORING PLAN

1. INTRODUCTION

The Emissions Monitoring Plan of an aeroplane operator shall contain the information listed in section 2 of this Appendix.

The checklist for the CAA review of the aeroplane operators' Emissions Monitoring Plans and those changes which are considered as material changes, is provided in section 3 of this Appendix.

2. CONTENT OF EMISSIONS MONITORING PLANS

Note. – The template of an Emissions Monitoring Plan (from aeroplane operator to the CAA) is provided on the CAA website.

2.1 Aeroplane operator identification

2.1.1 Name and address of the aeroplane operator with legal responsibility.

2.1.2 Information for attributing the aeroplane operator to the Sultanate of Oman:

a) **ICAO Designator:** ICAO Designator(s) used for air traffic control purposes, as listed in Doc 8585 — Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services.

b) **Air operator certificate:** If the aeroplane operator does not have an ICAO Designator, then a copy of the air operator certificate.

c) **Place of juridical registration:** If the aeroplane operator does not have an ICAO Designator or an air operator certificate, then the aeroplane operator's place of juridical registration.

2.1.3 Details of ownership structure relative to any other aeroplane operators with international flights, including identification of whether the aeroplane operator is a parent company to other aeroplane operators with international flights, a subsidiary of another aeroplane operator(s) with international flights, and/or has a parent and or subsidiaries that are aeroplane operators with international flights.

2.1.4 If the aeroplane operator in a parent-subsidiary relationship seeks to be considered a single aeroplane operator for purposes of this Regulation, then confirmation shall be provided that the parent and subsidiary(ies) are attributed to the Sultanate of Oman and that the subsidiary(ies) are wholly-owned by the parent.

2.1.5 Contact information for the person within the aeroplane operator's company who is responsible for the Emissions Monitoring Plan.

2.1.6 Description of the aeroplane operator's activities (e.g. scheduled/non-scheduled, passenger/cargo/executive, and geographic scope of operations).

2.2 Fleet and operations data

2.2.1 List of the aeroplane types and type of fuel (e.g. Jet-A, Jet-A1, TS-1, No. 3 Jet fuel, Jet-B, AvGas) used in aeroplanes operated for international flights at the time of submission of the Emissions Monitoring Plan, recognizing that there may be changes over time. The list shall include:

a) Aeroplane types with a maximum certificated take-off mass of 5 700 kg or greater and the number of aeroplanes per type, including owned and leased aeroplanes; and

Note 1. — Aeroplane types are contained in Doc 8643 — Aircraft Type Designators.

Note 2. — The aeroplane operator using the ICAO CORSIA CO2 Estimation and Reporting Tool (CERT) could use the functionality of the CERT to identify applicable aeroplane types.

b) Type of fuel(s) used by the aeroplanes (e.g., Jet-A, Jet-A1, TS-1, No. 3 Jet fuel, Jet-B, AvGas).

Note. — The aeroplane operator using the ICAO CORSIA CO_2 Estimation and Reporting Tool (CERT) does not need to specify the type of fuel used by aeroplanes.

2.2.2 Information used for attributing international flights to the aeroplane operator:

a) **ICAO Designator:** List of the ICAO Designator(s) used in Item 7 of the aeroplane operator's flight plans.

b) **Registration marks:** If the aeroplane operator does not have an ICAO Designator, then a list of the nationality or common mark, and registration mark of aeroplanes that are explicitly stated in the air operator certificate (or equivalent) and used in Item 7 of the aeroplane operator's flight plans.

2.2.3 Procedures on how changes in the aeroplane fleet and fuel used will be tracked, and subsequently integrated in the Emissions Monitoring Plan.

2.2.4 Procedures on how the specific flights of an aeroplane will be tracked to ensure completeness of monitoring.

2.2.5 Procedures for determining which aeroplane flights are subject to the Subpart B (MRV) requirements.

Note. — The aeroplane operator using the ICAO CORSIA CO_2 Estimation and Reporting Tool (CERT) could use the functionality of the CERT to identify international flights, as long as all flights (i.e., domestic and international) conducted during the reporting year are entered as input into the tool.

2.2.6 List of States to where the aeroplane operator operates international flights at the time of initial submission of the Emissions Monitoring Plan.

Note. — The aeroplane operator using the estimation functionality of the ICAO CORSIA CO_2 Estimation and Reporting Tool (CERT) to assess its eligibility to use the CERT could use the output of the tool (i.e., list of States) as input to the Emissions Monitoring Plan submission.

2.2.7 Procedures for determining which international aeroplane flights are subject to CORSIA offsetting requirements.

Note. — The aeroplane operator using the ICAO CORSIA CO_2 Estimation and Reporting Tool (CERT) could use the functionality of the CERT to identify flights subject to offsetting requirements in a given year of compliance as long as the aeroplane operator uses the correct version (i.e., year of compliance) of the CERT.

2.2.8 Procedures for identifying domestic flights and/or humanitarian, medical or firefighting international flights that would not be subject to Subpart B (MRV) requirements.

2.3 Methods and means of calculating emissions from international flights

Methods and means for emissions monitoring and compliance on or after 1 January 2021

2.3.1 If the aeroplane operator has international flights, but these are not subject to offsetting requirements, then it shall confirm whether it plans to use the ICAO CORSIA CO_2 Estimation and Reporting Tool (CERT) or the Fuel Use Monitoring Methods as described in Appendix 2 of this Regulation.

2.3.2 If the aeroplane operator meets the eligibility criteria in CORSIA.205(b), and it chooses to use the ICAO CORSIA CO_2 Estimation and Reporting Tool (CERT), then the following information shall be provided:

a) An estimate of CO_2 emissions for all international flights subject to offsetting requirements for the year before the emissions monitoring is to occur (for example, an estimate of such emissions for 2020 for monitoring in 2021), as well as information on how the fuel use and CO_2 estimation was calculated.

b) The type of input method used in the ICAO CORSIA CO_2 Estimation and Reporting Tool (CERT):

- Great Circle Distance input method; or
- Block Time input method.

2.3.3 If the aeroplane operator meets the eligibility criteria in CORSIA.205(a), or chooses to use a Fuel Use Monitoring method as described in Appendix 2 of this Regulation, then the following information shall be provided:

a) The Fuel Use Monitoring Method that will be used:

- Method A;
- Method B;
- Block-off / Block-on;
- Fuel Uplift; or
- Fuel Allocation with Block Hour.

b) If different Fuel Use Monitoring Methods are to be used for different aeroplane types, then the aeroplane operator shall specify which method applies to which aeroplane type;

c) Information on the procedures for determining and recording fuel density values (standard or actual) as used for operational and safety reasons and a reference to the relevant aeroplane operator documentation; and

d) The systems and procedures to monitor fuel consumption in both owned and leased aeroplane. If the aeroplane operator has chosen the Fuel Allocation with Block Hour method, information shall be provided on the systems and procedures used to establish the average fuel burn ratios as described in Appendix 2 of this Regulation.

2.3.4 If the aeroplane operator is using a Fuel Use Monitoring Method, as defined in Appendix 2 of this Regulation, it shall state whether it plans to use the ICAO CORSIA CERT for international flights that are subject to emissions monitoring but not offsetting requirements. If so, the aeroplane operators shall also state which input method into the ICAO CORSIA CERT is being used (i.e., Great Circle Distance input method, or Block Time input method).

2.4 Data management, data flow and control

2.4.1 The aeroplane operator shall provide the following information:

a) roles, responsibilities and procedures on data management;

b) procedures to handle data gaps and erroneous data values, including:

i. Secondary data reference sources which would be used as an alternative;

ii. Alternative method in case the secondary data reference source is not available; and

iii. For those aeroplane operators using a Fuel Use Monitoring Method, information on systems and procedures for identifying data gaps and for assessing whether the 5 per cent threshold for significant data gaps has been reached.

c) documentation and record keeping plan;

d) assessment of the risks associated with the data management processes and means for addressing significant risks;

e) procedures for revising the Emissions Monitoring Plan and resubmitting relevant portions to the CAA when there are material changes;

f) procedures for providing notice in the Emissions Report of non-material changes that require the attention of the CAA; and

g) a data flow diagram summarizing the systems used to record and store data associated with the monitoring and reporting of CO_2 emissions.

3. EMISSIONS MONITORING PLANS: CHECKLIST

The section provides additional guidance on the initial submission, amendments and approval of aeroplane operators' Emissions Monitoring Plans.

Emissions Monitoring Plans: checklist for the CAA review and guidance on material changes

Emissions Monitoring Plan provision	*Checklist for the CAA review*	*Material change or notice of change*
I. Aeroplane operator identification		
Identification of aeroplane operator with legal responsibility.	Subject to review and approval by the CAA; reviewer to review and confirm document(s).	Can be material – if legal entity or means to identify legal entity changes; resubmit and subject to re-approval.
Name and address.	Subject to review and approval by the CAA; reviewer to review and confirm document(s).	Can be material – if changes to name and/or address are due to a change in the legal entity or means for the CAA to identify legal entity changes; resubmit and subject to re-approval.
Identifying information for attributing the aeroplane operator to the Sultanate of Oman: either unique ICAO Designator (or Designators) used in the call sign for air traffic control purposes; copy of the air operator certificate; or place of juridical registration.	Subject to review and approval by the CAA; reviewer to review and confirm document(s).	A change in the identifying information would be material; resubmit and subject to re-approval.
Details of ownership structure relative to any other aeroplane operators with international flights, including identification of whether the aeroplane operator is a parent company, a subsidiary and/or has a parent and/or subsidiary(ies).	Information provided? Check "Yes" or "No".	Not material unless a change in corporate structure changed which entity is the aeroplane operator subject to requirements from this Regulation. Changes that do not affect which entity is the aeroplane operator would be handled as simple notice to the authority in the annual Emissions Report.
If the aeroplane operator in a parent-subsidiary relationship seeks to be considered a single aeroplane operator for purposes of the CORSIA, confirm that those parent and/or subsidiaries are subject to CORSIA requirements by the same State and that the subsidiary(ies) are wholly owned by the parent.	Subject to review and approval by the CAA; reviewer to confirm eligibility of aeroplane operator in parent-subsidiary relationship to be considered a single aeroplane operator.	Would be material if the corporate structure changed in a way that the entity no longer was eligible to be considered a single aeroplane operator under CORSIA.
Contact information for person within the aeroplane operator's company who is responsible for the Emissions Monitoring Plan.	Information provided? Check "Yes" or "No".	Not material – changes in this would be handled as simple notice to the authority in the annual Emissions Report.
Brief description of aeroplane operator's activities (e.g. scheduled/non-scheduled, passenger/cargo/executive, and geographic scope of operations).	Information provided? Check "Yes" or "No".	Not material.

Emissions Monitoring Plan provision	*Checklist for the* CAA *review*	*Material change or notice of change*
II. Fleet and operations data		
List of the aeroplane types with certificated maximum take-off mass (MTOM) greater than 5 700 kg and types of aviation fuel (e.g. Jet-A, Jet-A1, Jet-B, TS-1, No. 3 Jet fuel, Aviation Gasoline) used in aeroplane operated in international flight at the time of submission of the Emissions Monitoring Plan, recognizing that there may be changes over time.	Information provided? Check "Yes" or "No".	Not material – changes in this could be handled as simple notice to the authority in the annual Emissions Report.
Identify the aeroplane operator's means for having its international flights attributed to it: ICAO Designator; or registration marks.	Subject to review and approval by the CAA; reviewer to review and confirm means for attribution of flights and documentation.	A change in the means for having international flights attributed; resubmit the Emissions Monitoring Plan and subject to re-approval.
Information on procedures for how changes in aeroplane fleet and fuel used will be tracked and integrated in emissions monitoring.	Subject to review and approval by the CAA; reviewer to review and confirm that sufficient procedures are in place.	Can be material – if the aeroplane operator changes the procedures, that would be subject to re-review and re-approval by the CAA.
Information on the means the aeroplane operator will use to track/document each aeroplane operated and the specific flights of the aeroplane to ensure completeness of monitoring.	Subject to review and approval by the CAA; reviewer to review and confirm that sufficient means are in place.	Can be material – if the aeroplane operator changes the means for tracking/documenting, that would be subject to re-review and re-approval by the CAA; reviewer to review and confirm that sufficient means are in place.
Information on procedures for determining which aeroplane flights meet the definition of international flights, and therefore are subject to the emissions monitoring requirements.	Subject to review and approval by the CAA; reviewer to review and confirm that sufficient procedures are in place.	Can be material – if the aeroplane operator changes procedures, that would be subject to re-review and re-approval by the CAA.
List all of States at the time of initial Emissions Monitoring Plan submission where the aeroplane operator operates international flights, listed as State pairs (e.g. State A to State B; State C to State D).	Information provided? Check "Yes" or "No".	Not material – changes in this would be handled as simple notice to the CAA in the aeroplane operator's annual Emissions Report.
Information on procedures for identifying international flights subject to offsetting requirements, as defined in this Regulation.	Subject to review and approval by the CAA; reviewer to review and confirm that sufficient procedures are in place.	Can be material – if the aeroplane operator changes procedures, that would be subject to re-review and re-approval by the CAA.

Emissions Monitoring Plan provision	*Checklist for the* CAA *review*	*Material change or notice of change*
If the aeroplane operator conducts any domestic flights and/or humanitarian, medical or firefighting international flights that would not be subject to the emissions monitoring requirements, information on the procedures for how those flights will be separated from those, subject to the emissions monitoring requirements.	Subject to review and approval by the CAA; reviewer to review and confirm that sufficient procedures are in place.	Can be material – if the aeroplane operator changes procedures, that would be subject to re-review and re-approval by the CAA.
III. Methods/Means of calculating emissions from international flights (Methods and means for emissions monitoring and compliance on or after 1 January 2021)		
If the aeroplane operator has international flights, but does not have any international flights subject to the offsetting requirements, does the aeroplane operator plan to use the ICAO CORSIA CERT?	Subject to review by the CAA; reviewer to review and confirm that the aeroplane operator has international flights, but does not have any international flights subject to the offsetting requirements.	Can be material – if the aeroplane operator begins to operate flights subject to the offsetting requirements.
If the aeroplane operator has international flights, including international flights subject to the offsetting requirements, are the aeroplane operator's emissions from international flights subject to offsetting requirements less than 50 000 tonnes and does the aeroplane operator plan to use the ICAO CORSIA CERT? If so, provide an estimate of CO_2 emissions for all international flights that would be subject to the offsetting requirement for the year before the emissions monitoring is to occur (for example, for monitoring in 2021, provide an estimate of such emissions for 2020). Provide supporting information on how the estimation of emissions was reached, including on how fuel consumption was estimated.	Subject to review by the CAA; reviewer to review and confirm that the estimation method was reasonable and to consider with respect to any claim by the aeroplane operator that it will qualify to use the ICAO CORSIA CERT.	If the aeroplane operator's CO_2 emissions for international flights exceed the threshold, such that the aeroplane operator is no longer eligible to use the ICAO CORSIA CERT, this would be material.
If the aeroplane operator will be using the ICAO CORSIA CERT, identify which input method into the CERT will be used (i.e. Great Circle Distance input method or Block Time input method).	Subject to review and approval by the CAA; reviewer to review and confirm that aeroplane operator has properly identified an applicable input method into the ICAO CORSIA CERT.	Can be material – if the aeroplane operator changes methods that would be subject to review and approval by the CAA; reviewer to review and confirm.

Emissions Monitoring Plan provision	*Checklist for the* CAA *review*	*Material change or notice of change*
If the aeroplane operator will be using a Fuel Use Monitoring Method for flights subject to the emissions monitoring requirements and the offsetting requirements under this Regulation, provide information on the specific Fuel Use Monitoring Method, whether the aeroplane operator plans to use different methods for different aeroplane types.	Subject to review and approval by the CAA; reviewer to review and confirm that aeroplane operator has properly identified an applicable Fuel Use Monitoring Method(s) as described in Appendix 2 of this Regulation.	Can be material – if the aeroplane operator changes methods or seeks to revise its approach to fuel density, that would be subject to review and approval by the CAA; reviewer to review and confirm that aeroplane operator has noted proper and sufficient fuel use methodology.
Provide information on the procedures for determining and recording fuel density values (standard or actual) as used for operational and safety reasons and provide a reference to the relevant aeroplane operator documentation.	Subject to review and approval by the CAA; reviewer to review and confirm that aeroplane operator has identified means for determining and recording fuel density and provided a reference to the relevant documentation.	Can be material – if the aeroplane operator changes its procedures for determining and/or recording fuel density values that would be subject to re-review and reapproval by the CAA.
If the aeroplane operator is applying Fuel Use Monitoring Methods as described in Appendix 2 of this Regulation for flights subject to both emissions monitoring and offsetting requirements, does the aeroplane operator plan to use the ICAO CORSIA CERT for international flights that are only subject to emissions monitoring but not subject to the offsetting requirement? If so, which input method into the ICAO CORSIA CERT (i.e. Great Circle Distance input method or Block Time input method)?	Subject to review and approval by the CAA; reviewer to review and confirm that aeroplane operator has noted proper and sufficient simplified fuel use methodology.	Can be material – if the aeroplane operator's choice of options under the simplified fuel use methodology changes, that would be subject to review and approval by the CAA; reviewer to review and confirm that the aeroplane operator has noted proper and sufficient simplified fuel use methodology.
Information about the systems and procedures to monitor fuel consumption in both owned and leased aeroplane.	Subject to review and approval by the CAA; reviewer to review and confirm that aeroplane operator has systems and procedures in place to implement.	Can be material – if the aeroplane operator changes systems for differentiating fuel use to owned or leased aeroplane, that would be subject to re-review and re-approval by the CAA.
IV. Data management, data flow and control		
How data management will be done by the aeroplane operator and by whom.	Subject to review and approval by the CAA; reviewer to review and confirm that aeroplane operator has a data management plan in place to track and report required information.	Can be material – if the aeroplane operator changes the underlying approach to data management, that would be subject to re-review and re-approval by the CAA.

Emissions Monitoring Plan provision	*Checklist for the* CAA *review*	*Material change or notice of change*
Handling data gaps and erroneous data values: if data is missing or incorrect such that the aeroplane operator cannot determine emissions for a flight in accordance with the specified procedures, what secondary data reference sources would be used as an alternative? In cases where a secondary data reference source is not available, what method would be used to fill data gaps?	Subject to review and approval by the CAA; reviewer to review and confirm that aeroplane operator has noted methodology for handling data gaps and erroneous data values.	Can be material – if the aeroplane operator changes the means for handling data gaps significant risks, that would be subject to re-review and re-approval by the CAA.
Documentation and record keeping plan.	Information provided? Check "Yes" or "No".	Not material.
Brief assessment of the risks associated with the data management processes and means for addressing significant risks.	Subject to review and approval by the CAA; reviewer to review and confirm that aeroplane operator has noted methodology for addressing.	Can be material – if the aeroplane operator changes the means for addressing significant risks, that would be subject to re-review and re-approval by the CAA.
Procedures for making revisions to the Emissions Monitoring Plan and resubmitting relevant portions to the CAA when there are material changes to the Emissions Monitoring Plan and for providing notice in the Emissions Report of non-material changes that require notice to the CAA.	Information provided? Check "Yes" or "No".	Not material.
Attach a data flow diagram summarizing the systems are used to record and store data associated with the monitoring and reporting of CO2 emissions.	Information provided? Check "Yes" or "No".	Not material.

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APPENDIX 5 — CONTENT OF AEROPLANE OPERATOR EMISSIONS REPORT

1. Emission Report Content

Content of an Emissions Report from aeroplane operator to the CAA shall be in accordance with the below table:

Field #	*Data Field*	*Details*
Field 1	Aeroplane operator information	1.a Name of aeroplane operator 1.b Address of aeroplane operator 1.c Contact information for the person within the aeroplane operator's company who is responsible for the Emissions Monitoring Plan 1.d Method and identifier used to attribute an aeroplane operator to Sultanate of Oman. 1.e State (Sultanate of Oman)
Field 2	Reference details of aeroplane operator Emissions Monitoring Plan	2 Reference to the Emissions Monitoring Plan that is the basis for emissions monitoring that year *Note - The CAA may require providing reference to updated Emissions Monitoring Plan, if applicable.*
Field 3	Information to identify the verification body and the national accreditation body	3.a Name and contact information of the verification body 3.b Name and contact information of the national accreditation body (if applicable) *Note - Verification Report to be a separate report from aeroplane operator's Emissions Report*
Field 4	Reporting year	4.a Year during which emissions were monitored 4.b Date on which Emissions Report was compiled 4.c Version of the Emissions Report
Field 5	Fuel Use Monitoring Method	5.a Indicate whether the aeroplane operator used ICAO CORSIA CO_2 Estimation and Reporting Tool (CERT) 5.b Indicate whether the aeroplane operator used the Fuel Allocation with Block Hour method during the reporting year

Field 6* *The aeroplane operator using the ICAO CORSIA CERT, does not need to report Field 6.	Type and mass of fuel(s) used	6.a Total fuel mass per type of fuel: • Jet-A (in tonnes) • Jet-A1 (in tonnes) • TS-1 (in tonnes) • No. 3 Jet fuel (in tonnes) • Jet-B (in tonnes) • AvGas (in tonnes) *Note – Above totals to include CORSIA eligible fuels.*
Field 7	Fuel density	7.a Specify whether standard and/or actual fuel density was used to determine the fuel uplift in the reporting year
Field 8	Total number of international flights during the reporting period	8.a Total number of international flights, subject to Subpart B (MRV) requirements of this Regulation, during the reporting period. *Note - Total (sum of values from Field 9)*
Field 9	Number of international flights per State pair	9. Number of international flights, subject to Subpart B (MRV) requirements of this Regulation, per State pair (no rounding).
Field 10	CO_2 emissions per State pair	10. CO_2 emissions from international flights, subject to Subpart B (MRV) requirements of this Regulation, per State pair (in tonnes).
Field 11	Scale of data gaps	11.a Percent of data gaps (according to criteria defined in CORSIA.250(b) and rounded to the nearest 0.1%). 11.b Reason for data gaps if percent of data gaps exceeds the threshold defined in CORSIA.250(b).
Field 12	Aeroplane information	12.a List of aeroplane types 12.b Aeroplane identifiers used in flight plans' Item 7 during the year for all international flights. Where the identifier is based on an ICAO Designator, only the ICAO Designator is to be reported 12.c Information on leased aeroplanes 12.d Average fuel burn ratio (AFBR) for each aeroplane type under 10 in line with Doc 8643 — Aircraft Type Designator (in tonnes per hour to 3 decimal places)

		Note - 12.d is only required if the aeroplane operator is using the Fuel Allocation with Block Hour method, as defined in Appendix 2.
Field 13	Eligibility for and use of the ICAO CORSIA CO_2 Estimation and Reporting Tool (CERT) as per Subpart B	13.a Version of the ICAO CORSIA CERT used 13.b Scope of use of the ICAO CORSIA CERT i.e., on all flights or only on the international flights not subject to offsetting requirements
Field 14	CORSIA eligible fuel claimed	14.a Fuel type (i.e., type of fuel, feedstock and conversion process) 14.b Total mass of the neat CORSIA eligible fuel claimed (in tonnes) per fuel type
	Emissions information (per fuel type)	14.c Approved Life Cycle Emissions values 14.d Emissions reductions claimed from a CORSIA eligible fuel
	Emissions reductions (total)	14.e Total emissions reductions claimed from the use of all CORSIA eligible fuels (in tonnes)
	Note.- If emissions reductions from the use of CORSIA eligible fuel are claimed, see **section 2** below for supplementary information that is to be provided with the aeroplane operator's Emissions Report.	
Field 15	Total CO_2 emissions	15.a Total CO_2 emissions (based on total mass of fuel in tonnes from Field 6 and reported in tonnes) 15.b Total CO_2 emissions from flights subject to offsetting requirements (in tonnes) 15.c Total CO_2 emissions from international flights, subject to Subpart B (MRV) requirements that are not subject to offsetting requirements (in tonnes)

2. Supplementary Information to Emission Report Content

Supplementary information to an aeroplane operator's emissions report if emissions reductions from the use of each CORSIA eligible fuel being claimed should be as per below table:

Field #	*Data Field*	*Details*
Field 1	Aeroplane operator information and reporting information	1.a Name of aeroplane operator 1.b Address of aeroplane operator 1.c Reporting year
Field 2	Purchase date of the neat CORSIA eligible fuel	
Field 3	Identification of the producer of the neat CORSIA eligible fuel	3.a Name of producer of the neat CORSIA eligible fuel 3.b Address of the producer of the neat CORSIA eligible fuel
Field 4	Fuel Production	4.a Production date of the neat CORSIA eligible fuel 4.b Production location of the neat CORSIA eligible fuel 4.c Batch identification number of each batch of neat CORSIA eligible fuel 4.d Mass of each batch of neat CORSIA eligible fuel produced
Field 5	Fuel type	5.a Type of fuel (i.e., Jet-A, Jet-A1, TS-1, No. 3 Jet fuel, Jet- B, AvGas) 5.b Feedstock used to create the neat CORSIA eligible fuel 5.c Conversion process used to create the neat CORSIA eligible fuel
Field 6	Fuel Purchased	6.a Proportion of neat CORSIA eligible fuel batch purchased (rounded to the nearest %) *Note. - If less than an entire batch of CORSIA eligible fuel is purchased.* 6.b Total mass of each batch of neat CORSIA eligible fuel purchased (in tonnes) 6.c Mass of neat CORSIA eligible fuel purchased (in tonnes) *Note. — Field 6.c is equal to the total for all batches of CORSIA eligible fuels reported in Field 6.b.*

Field 7	Evidence that fuel satisfies the CORSIA Sustainability Criteria	i.e., valid sustainability certification document
Field 8	Life cycle emissions values of the CORSIA eligible fuel	8.a Default or Actual Life Cycle Emissions Value (L_{CEF}) for given CORSIA eligible fuel f, which is equal to the sum of 8.b and 8.c (in gCO_2e/MJ rounded to the nearest whole number) 8.b Default or Actual Core Life Cycle Assessment (LCA) value for given CORSIA eligible fuel f (in gCO_2e/MJ rounded to the nearest whole number) 8.c Default Induced Land Use Change (ILUC) value for given CORSIA eligible fuel f (in gCO_2e/MJ rounded to the nearest whole number)
Field 9	Intermediate purchaser	9.a Name of the intermediate purchaser 9.b Address of the intermediate purchaser *Note. — This information would be included in the event that the aeroplane operator claiming emissions reductions from the use of CORSIA eligible fuels was not the original purchaser of the fuel from the producer (e.g., the aeroplane operator purchased fuel from a broker or a distributor). In those cases, this information is needed to demonstrate the complete chain of custody from production to blend point.*
Field 10	Party responsible for shipping of the neat CORSIA eligible fuel to the fuel blender	10.a Name of party responsible for shipping of the neat CORSIA eligible fuel to the fuel blender 10.b Address of party responsible for shipping of the neat CORSIA eligible fuel to the fuel blender
Field 11	Fuel Blender	11.a Name of the party responsible for blending neat CORSIA eligible fuel with aviation fuel 11.b Address of the party responsible for blending neat CORSIA eligible fuel with aviation fuel
Field 12	Location where neat CORSIA eligible fuel is blended with aviation fuel	

Field 13	Date the neat CORSIA eligible fuel was received by blender	
Field 14	Mass of neat CORSIA eligible fuel received (in tonnes)	*Note. - This number may differ from the number in Field 6.c in cases where only a portion of a batch or batches are received by the blender (i.e. due to sale to intermediate purchaser).*
Field 15	Blend ratio of neat CORSIA eligible fuel and aviation fuel (rounded to the nearest %)	
Field 16	Documentation demonstrating that the batch or batches of neat CORSIA eligible fuel were blended into aviation fuel (e.g., the subsequent Certificate of Analysis of the blended fuel)	
Field 17	Mass of neat CORSIA eligible fuel claimed (in tonnes)	*Note. - This number may differ from the number in Field 6.c in cases where only a portion of a batch or batches are claimed by the aeroplane operator.*

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APPENDIX 6 — CONTENT OF AEROPLANE OPERATOR EMISSIONS UNIT CANCELLATION REPORT

Field#	*Data Field*	*Details*
Field 1	Aeroplane operator information	1.a Name of aeroplane operator 1.b Address of aeroplane operator 1.c Contact information for the person within the aeroplane operator's company who is responsible for the EUCR 1.d Unique identifier by which an aeroplane operator is attributed to the Sultanate of Oman 1.e State (the Sultanate of Oman)
Field 2	Compliance Period years reported	2. Year(s) in the reported Compliance Period for which offsetting requirements are reconciled in this report
Field 3	Aeroplane operator's total final offsetting requirements	3. Aeroplane operator's total final offsetting requirements (in tonnes), as informed by the CAA
Field 4	Total quantity of emissions units cancelled	4. Total quantity of emissions units cancelled to reconcile the total final offsetting requirements in Field 3
Field 5	Consolidated identifying information for cancelled emissions units	For each batch of cancelled emissions units (batch defined as a contiguous quantity of serialized emissions units), identify the following: 5.a Quantity of emissions units cancelled; 5.b Start of serial numbers; 5.c End of serial numbers; 5.d Date of cancellation; 5.e CORSIA Eligible Emissions Unit Programme; 5.f Unit type; 5.g Host country; 5.h Methodology;* 5.i Demonstration of unit date eligibility; 5.j Programme-designated registry name; 5.k Unique identifier for registry account to which the batch was cancelled;

		5.l Aeroplane operator in whose name the unit was cancelled; and 5.m The unique identifier for the registry account from which the cancellation was initiated.

* Methodology may also be described as a ‘protocol’ or ‘framework’.

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APPENDIX 7 — VOLUNTARY PRE-VERIFICATION CHECKLISTS FOR AEROPLANE OPERATOR

1. Voluntary pre-verification of Emission Report by the aeroplane operator

In order to prepare for Verification Body verification, aeroplane operators should consider conducting a voluntary internal pre-verification in order to ensure there will be no large data issues during the verification. The value of a pre-verification conducted internally by the aeroplane operator is to ensure quality assurance and quality control of the internal data gathering process and calculation systems and ensure that the aeroplane operator has passed certain logic checks in advance of a verification body coming on site. The team that manages the day-to-day MRV of CORSIA should select an internal auditor who will be able to assess what has already been done. While the exact internal voluntary pre-verification may differ by aeroplane operator, the below checklist should be used as a guideline on evaluating the monitoring and reporting process.

Pre-verification checklist for Emission Report

Completed by	*Topic*	*Task*	*MRV*[1]	*Simplified MRV*[2]
Aeroplane operator CORSIA management team	**Selecting an internal auditor**	Choose a qualified internal auditor/audit team	x	x
		Ensure that the internal auditor(s) have the required knowledge and skills and is independent from the activity being audited	x	x
Internal auditor	**Understand aeroplane operator monitoring and reporting process**	Review Emissions Monitoring Plan and other relevant written procedures; data flow charts; preliminary draft Emissions Report versions; historical reports; communication with State, etc.	x	x
Internal auditor in conjunction with aeroplane operator CORSIA management team	**Identify scope of voluntary pre-verification audit plan**	Develop data sampling plan based on analysis of documents	x	x
		Confirm that data gathering, calculation and summation processes are as per procedures. This analysis should include quantitative analysis	x	x
		Check that data sources match what has been identified in the Emissions Monitoring Plan	x	x
		If a data flow chart exists, compare it with actual data flow and identify any determined problems	x	x
Internal auditor	**Evaluate staff competence**	Collect information through interviews, observations of activities, review of documents	x	x

[1] Fuel Use Monitoring Method, as described in Appendix 2 of this Regulation.
[2] CORSIA CO_2 Estimation and Reporting Tool (CERT), as described in Appendix 3 of this Regulation.

Completed by	*Topic*	*Task*	*MRV*	*Simplified MRV*
Internal auditor	**Evaluate staff competence**	Does aeroplane operator CORSIA management team have adequate knowledge of: monitoring and reporting as relating to GHG monitoring and reporting responsibilities and activities related to the CORSIA?	x	X
		Assess the different responsibilities assigned and recorded in the Emissions Monitoring Plan for MRV and if the various staff members complete those tasks correctly	x	x
		Check if responsibilities assigned to various staff have been completed	x	x
Internal auditor	**Analysis to identify report for errors or logic gaps**	How does the data compare to previous years?	x	x
		Adequacy of input, output and transformation error checking routines	x	x
		Are there any inconsistencies such as empty cells or error messages?	x	x
		Check completeness of list of flights by adding logical tests and consistency checks in the report, that is, below two lines	x	x
		Is the departure aerodrome for the next flight the same as the arrival aerodrome for the previous flight?	x	x
		Correlation analysis – determination of the correlation between data and dependent variables (e.g. consistency between duration of flights and fuel use, average fuel burns)	x	
		Intra-project analysis – comparison of data across multiple sites (e.g. consistency of data between aerodromes, is arrival fuel of the previous flight plus the recorded fuel uplift roughly the same figure as the departure fuel?)	x	
		Management system elements in place supporting collection and reporting of emissions data	x	
		Adequacy of reporting processes for the periodic comparisons and reconciliation of emissions data with other data (e.g. comparing emission estimates against production and capacity utilization data)	x	
Internal auditor	**Assess scope and technical exceptions**	Are the appropriate flights included for the CORSIA monitoring and reporting?	x	x
		Are the correct international flights subject to offsetting requirements, as defined in this Regulation?	x	x
		Are excepted flights recorded correctly (i.e. has a medical flight really been classified as a medical flight and are all classified medical flights real medical flights or have they been classified incorrectly?)	x	x

Completed by	*Topic*	*Task*	*MRV*	*Simplified MRV*
Internal auditor	**Emission sources and aeroplane used**	Set up a checklist of emission sources/aeroplanes used and operated by operator	x	x
Internal auditor	**Emission calculation and fuel data used**	Consult Emissions Monitoring Plan to determine how emissions are calculated and perform some cross-checks to see if the applied calculation works by adding logics to the report	x	x
		If based on real fuel figures, cross-check how those are recorded and if this has been done correctly or if there are any recurring error sources such as those below	x	
		Calculate if the arrival fuel of the previous flight plus the recorded fuel uplift are roughly the same figure as the departure fuel	x	
		Cross-check if two equal fuel uplifts have been recorded for two or more consecutive flights and if those are genuine or typing errors	x	x
		Check report for very low/high fuel uplifts/figures to see if those are correct or typos	x	x
	Aviation fuel to CO_2 conversion; fuel density; CORSIA eligible fuel factors	Aviation fuel's fuel to CO_2 conversion factor used correctly	x	
		Check if the fuel density process in the Emissions Monitoring Plan has been consistently applied for all flights	x	
		Check if any volume of CORSIA eligible fuel has been used and if those have been certified as being eligible in the CORSIA	x	
Internal auditor	**Pre-verification audit documentation**	Record complete list of voluntary pre-verification findings including:	x	x
		Recommended/required actions	x	X
		Timeline for closure of finding	x	x
		Follow up checks by auditor to ensure corrective actions have been completed satisfactorily and findings are closed	x	x
Aeroplane operator CORSIA day-to-day management team	**Execute corrective actions**	Evaluate list of findings and execute corrective actions to prepare for external third-party verification by verification body	x	x

2. Voluntary pre-verification of EUCR by the aeroplane operator

In order to prepare for Verification Body verification, aeroplane operators should consider conducting a voluntary internal pre-verification. Similar to the Emissions Report, it is recommended to appoint an internal auditor. The main objective of the audit is to ensure that all relevant data is available for the verification body and is also presented in a way which allows for an effective but also efficient audit. In addition to the list included in the below checklist, the aeroplane operator is encouraged to develop its own internal cross-checks. These could, for instance, include approaches to compare the key steps in the process for internal commissioning of purchasing emissions units, with the units being held in a registry to ensure eligibility, or a general analysis to determine whether there are other internal processes (e.g. within subsidiaries), which use offsetting as well to meet legal or voluntary requirements.

Pre-verification checklist for EUCR

Completed by	*Topic*	*Task*	*Satisfactorily completed: Yes/No/ Not completed/ Not applicable*
Aeroplane operator CORSIA management team	**Selecting internal auditor**	Has a qualified internal auditor or audit team been chosen?	
		Is it ensured that the internal auditor has the required knowledge and skills and is independent from the activity being audited?	
Internal auditor	**Understand aeroplane operator emissions unit cancellation process**	Review aeroplane operator's plan to conduct cancellations and other relevant internal procedures for conducting cancellations and collating information (data flow charts, preliminary draft reports, historical reports, communications with State, etc.)	
Internal auditor in conjunction	**Identify scope of voluntary pre-**	What is the applicable reporting cycle for cancellations?	
with aeroplane operator's CORSIA management team	**verification audit plan**	Identify the applicable emissions unit registries where reported units have been cancelled, including whether the account is owned by the operator or by a third party	
		Check whether the aeroplane operator is participating in any other regulatory schemes where the same emissions units are applicable and where the schemes do not require transfer/surrender of emissions units	
		Check whether the operator has participated in/conducted voluntary offset schemes, up to three years prior to the start of the current compliance period	

Completed by	*Topic*	*Task*	*Satisfactorily completed: Yes/No/ Not completed/ Not applicable*
Internal auditor	**Evaluate staff competence**	Check whether the responsible staff is competent and has been trained sufficiently	
Internal auditor	**Analysis to identify errors or gaps in the report**	Are all the required fields in Appendix 6 of this Regulation complete and equal to the cancellation information as contained within all applicable third-party registries?	
		Does the total quantity of cancelled CORSIA Eligible Emissions Units in Field 5.a of Appendix 6 of this Regulation match the operator's required quantity for the given cycle?	
		Are all reported emissions unit cancellations visible on a publicly accessible website of the applicable emissions unit programme registry?	
		Does the aeroplane operator have documented evidence of sole right of use of the reported emissions units?	
Internal auditor	**Assess scope and any applicable exceptions**	Does the aeroplane operator participate under another regulatory scheme, with the same eligibility/reporting requirements? Does the aeroplane operator operate or engage in a non-regulatory/voluntary offsetting scheme?	
Internal auditor	**Data sources used**	List all applicable data sources used to compile report and applicable supporting information required to complete the verification	

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APPENDIX 8 — ESSENTIAL SUPPORTING DOCUMENTS

The documents referred to in this Regulation and listed below are material approved by the Council for publication by ICAO to support Annex 16, Volume IV as amended and are essential to the implementation of CORSIA. These documents, when published, are available on the ICAO CORSIA website (or the CAA website) and may only be amended by the Council:

1. CORSIA States for Chapter 3 State Pairs;
2. ICAO CORSIA CO_2 Estimation and Reporting Tool;
3. CORSIA Eligibility Framework and Requirements for Sustainability Certification Schemes;
4. CORSIA Approved Sustainability Certification Schemes;
5. CORSIA Sustainability Criteria for CORSIA Eligible Fuels;
6. CORSIA Default Life Cycle Emissions Values for CORSIA Eligible Fuels;
7. CORSIA Methodology for Calculating Actual Life Cycle Emissions Values;
8. CORSIA Eligible Emissions Units;
9. CORSIA Emissions Unit Eligibility Criteria;
10. CORSIA Central Registry (CCR): Information and Data for the Implementation of CORSIA;
11. CORSIA Aeroplane Operator to State Attributions.
12. CORSIA 2020 Emissions;
13. CORSIA Annual Sector's Growth Factor (SGF);
14. CORSIA Central Registry (CCR): Information and Data for Transparency; and
15. Environmental Technical Manual (ICAO Doc 9501), Volume IV – Procedures for demonstrating compliance with the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

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PART II – AUTHORITY REQUIREMENTS

CORSIA.900 The Obligations of the Sultanate of Oman under CORSIA

(a) The CAA shall ensure the correct attribution of an international flight departing from an aerodrome in Sultanate of Oman to an aeroplane operator using the approach in CORSIA.100(b)

(b) The CAA shall approve the aeroplane operator compliance on the basis of satisfactory evidence that the aeroplane operator meets requirements of this Regulation.

CORSIA.905 Attribution of an aeroplane operator to the Sultanate of Oman

(a) The CAA shall ensure the correct attribution of an aeroplane operator to the Sultanate of Oman according to the approach in (b).

(b) The attribution of an aeroplane operator to the Sultanate of Oman shall be determined as follows:

(1) ***ICAO Designator*:** Where the aeroplane operator has an ICAO Designator under Sultanate of Oman; if not, then

Note: ICAO Designators and Notifying States are contained in Doc 8585 — Designators for Aircraft Operating Agencies, Aeronautical Authorities and Services.

(2) ***Air operator certificate:*** Where the aeroplane does not possess an ICAO Designator, but has a valid Air Operator Certificate or the equivalent of it, issued by the Sultanate of Oman; if not, then

(3) ***Place of Juridical Registration:*** Where the aeroplane operator does not possess an ICAO Designator or an Air Operator Certificate (AOC), the aeroplane operator shall fulfil its obligations under this Regulation to the Sultanate of Oman, if the Sultanate of Oman is the State where the aeroplane operator is registered as juridical person. Where the aeroplane operator is a natural person, the Sultanate of Oman shall be the State to which the aeroplane operator fulfils its requirements under this Regulation; if the Sultanate of Oman is the State of residence and registration of this person.

(c) CAA shall use the CORSIA Central Registry (CCR) to submit to ICAO a list of aeroplane operators which are attributed to the Sultanate of Oman, annually by 30 November. The CAA may submit updates to this list to ICAO on a more frequent basis.

(d) The list referred to in (c) above shall contain the below information for each aeroplane operator:

(1) Name of aeroplane operator

(2) Address of aeroplane operator

(3) Method and identifier used to attribute aeroplane operator to the Sultanate of Oman in accordance with (b) above.

GM to CORSIA.905(a) Attributed CORSIA Operators

The CAA should use the ICAO document entitled "CORSIA Aeroplane Operator to State Attributions" that is available on the ICAO CORSIA website to meet its requirements.

CORSIA.910 Reporting CO_2 emissions to ICAO

(a) The CAA shall use the CORSIA Central Registry (CCR) to report CO_2 emissions and, if applicable, CORSIA eligible fuels data, by 31 July in the calendar year which follows the reporting period, to the ICAO.

(b) In accordance with the CORSIA.225, the CAA shall aggregate all aeroplane operator data which is deemed confidential without attribution to the specific aeroplane operator and shall inform ICAO that the reported data is confidential.

AMC to CORSIA.910 Reporting CO2 emissions to ICAO

(a) Contents of Emissions Report to ICAO by the CAA:

Field #	***Data Field***	***Details***
Field 1	Total annual CO_2 emissions on each State pair aggregated for all aeroplane operators attributed to the Sultanate of Oman	1.a Total annual CO_2 emissions on each State pair subject to offsetting requirements aggregated for all aeroplane operators attributed to the Sultanate of Oman (in tonnes) 1.b Total annual CO_2 emissions on each State pair not subject to offsetting requirements, aggregated for all aeroplane operators attributed to the Sultanate of Oman (in tonnes)
Field 2	Total annual CO_2 emissions for each aeroplane operator attributed to the Sultanate of Oman	2.a Total annual CO_2 emissions for each aeroplane operator attributed to the Sultanate of Oman (in tonnes) 2.b Indicate whether the ICAO CORSIA CO_2 Estimation and Reporting Tool (CERT) is used
Field 3	Total aggregated annual CO_2 emissions for all State pairs subject to offsetting requirements for each aeroplane operator attributed to the Sultanate of Oman (in tonnes)	

Field 4	Total aggregated annual CO_2 emissions for all State pairs not subject to offsetting requirements for each aeroplane operator attributed to the Sultanate of Oman (in tonnes)	

(b) CORSIA eligible fuels supplementary information to the Emissions Report from the CAA to ICAO:

Field#	*Data Field*	*Details*	*Notes*
Field 1	Production	1.a Production year of CORSIA eligible fuel claimed 1.b Producer of CORSIA eligible fuel 1.c Production location of the neat CORSIA eligible fuel	
Field 2	Batch of CORSIA eligible fuel	2.a Batch number(s) of each CORSIA eligible fuel claimed 2.b Total mass of each batch of CORSIA eligible fuel claimed (in tonnes)	
Field 3	CORSIA eligible fuel claimed	3.a Fuel types (i.e., type of fuel, feedstock and conversion process) 3.b Total mass of the neat CORSIA eligible fuel (in tonnes) per fuel type being claimed by all the aeroplane operators attributed to the State 3.c Default or Actual Life Cycle Emissions Value (L_{CEF}) for given CORSIA eligible fuel	*This would provide a total mass for each fuel type being claimed by all aeroplane operators attributed to the Sultanate of Oman.*

Field 4	Emissions information (per fuel type)	4. Total emissions reductions claimed from the use of a CORSIA eligible fuel (in tonnes)	
Field 5	Emissions reductions (total)	5. Total emissions reductions claimed by all aeroplane operators attributed to the Sultanate of Oman from the use of all CORSIA eligible fuel use (in tonnes)	

CORSIA.915 Error correction to Emissions Reports

(a) If an error in the aeroplane operator's reported CO_2 emissions is identified by the CAA, the verification body, or the aeroplane operator after the reported CO_2 emissions have been submitted to ICAO in accordance with the timeline as defined in Appendix 1, then the CAA shall update the reported CO_2 emissions to address the error. Moreover, the CAA shall assess any implications with respect to the aeroplane operator's offsetting requirements in previous years and, if necessary, make an adjustment to compensate for the error during the Compliance Period in which the error has been identified.

(b) The CAA shall report an error in the aeroplane operator's CO_2 emissions and the follow-up result of the related adjustment to ICAO.

CORSIA.920 Annual offsetting requirements for each aeroplane operator

(a) The CAA shall calculate the annual aeroplane operator's CO_2 offsetting requirements based on the data reported in accordance with Subpart B, the applicability requirements in Article 3(d), and shall inform each aeroplane operator of its annual offsetting requirement in accordance to the timeline specified in Appendix 1 of the Regulation.

(b) The CAA shall calculate the annual offsetting requirement in (a) above, in accordance with (c) below, prior to consideration of the emissions reductions from the use of CORSIA eligible fuels.

(c) From 1 January 2024 to 31 December 2035, the CAA shall calculate the annual offsetting requirements of each aeroplane operator as follows:

$$OR_y = \%S_y * (OE_y * SGF_y) + \%O_y * (OE_y * OGF_y)$$

Where:

OR_y = Aeroplane operator's offsetting requirements in the given year y (in tonnes);

OE_y = Aeroplane operator's CO_2 emissions in the given year y (in tonnes);

$\%S_y$ = Percent Sectoral in the given year y;

$\%O_y$ = Percent Individual in the given year y; where $\%O_y = (100\% - \%S_y)$;

SGF_y = Sector's Growth Factor in the given year y; and

OGF_y = Aeroplane operator's Growth Factor calculated in accordance with (e) below.

The below table represents the overview of CO_2 offsetting requirements on a sectoral and individual basis

Year of applicability	$\%S_y$	$\%O_y$
1 January 2024 to 31 December 2029	100%	0%
1 January 2030 to 31 December 2032	100%	0%
1 January 2033 to 31 December 2035	85%	15%

(d) The CAA shall calculate, when applicable, the Growth Factor for each aeroplane operator for a given year (OGF_y) in accordance with the CO_2 emissions from the verified Emissions Report submitted by each aeroplane operator, as follows:

$$OGF_y = \frac{(OE_y - OE_{B,y})}{OE_y}$$

Where:

OE_y = Total aeroplane operator's CO_2 emissions from international flight between the CORSIA State pairs in the given year y (in tonnes); and

$OE_{B,y}$ = 85 percent of total annual aeroplane operator's CO_2 emissions in 2019 from international flight between the CORSIA State pairs in the given year y (in tonnes).

When an aeroplane operator does not have CO_2 emissions from international flight between the CORSIA State pairs in 2019, and does not qualify as a new entrant, the CAA shall use a value of 10 000 tonnes of CO_2 emissions as the $OE_{B,y}$.

GM to CORSIA.920(c)&(d) Sector's Growth Factor (SGF) calculation by ICAO

(a) The CAA should use the Sector Growth Factor applicable for a given year (SGF_y) as provided in the ICAO document entitled "CORSIA Annual Sector's Growth Factor (SGF)" that is available from the ICAO CORSIA website.

(b) The Sector's Growth Factor in (a) above is calculated as:

$$\frac{(SE_y - SE_{B,y})}{SE_y}$$

Where:

SEy = Total sectoral CO_2 emissions from international flight between the CORSIA State pairs in the given year *y*; and

$SE_{B,y}$ = 85 percent of total annual sectoral CO_2 emissions in 2019 from international flight between the CORSIA State pairs in the given year y

Note 1: Sectoral emissions in a given year (SE_y) do not include the CO_2 emissions from new entrants during their exception period, as defined in Article 3(e).

Note 2: As the States which form the "CORSIA States for Chapter 3 State Pairs", change over time, the 85 percent of total annual sectoral CO_2 emissions in 2019 covered by these State pairs in the given year y ($SE_{B,y}$) will be recalculated.

(c) Additional Guidance material on calculation of offsetting requirements is provided in the Environmental Technical Manual (Doc 9501), Volume IV — Procedures for demonstrating compliance with the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

CORSIA.925 Total final CO_2 offsetting requirements for a given Compliance Period with emissions reductions from the use of CORSIA eligible fuels

(a) The amount of CO_2 emissions required to be offset by the aeroplane operator, after taking into account emissions reductions from the use of CORSIA eligible fuels in a given Compliance Period, shall be calculated by the CAA as follows:

$$FOR_C = (OR_{1,C} + OR_{2,C} + OR_{3,C}) - (ER_{1,C} + ER_{2,C} + ER_{3,C})$$

Where:

FOR_c = Aeroplane operator's total final offsetting requirements in the given Compliance Period c;

$OR_{y,c}$ = Aeroplane operator's offsetting requirements in the given year *y* (where *y* = 1, 2 or 3) of the Compliance Period *c*; and

$ER_{y,c}$ = Emissions reductions from the use of CORSIA eligible fuels in the given year y (where y = 1, 2 or 3) of the Compliance Period c.

(b) If the sum of the aeroplane operator's offsetting requirements in the three years of a given Compliance Period ($OR_{1,C} + OR_{2,C} + OR_{3,C}$) is less than 3 000 tonnes of CO_2, then the aeroplane operator has no offsetting requirements for the Compliance Period.

Note: If the sum of the aeroplane operator's offsetting requirements in the three years of a given Compliance Period ($OR_{1,C} + OR_{2,C} + OR_{3,C}$) is less than 3 000 tonnes of CO_2, the aeroplane operator may choose to voluntarily engage with the CAA to which it is attributed in order to offset such emissions.

(c) If the aeroplane operator's total final offsetting requirements during a Compliance Period (i.e., FOR_C) is negative, then the aeroplane operator has no offsetting requirements for the Compliance Period. These negative offsetting requirements shall not be carried forward to subsequent Compliance Periods.

(d) The aeroplane operator's total final offsetting requirements during a Compliance Period (i.e., FOR_C) shall be rounded up to the nearest tonne of CO_2.

(e) Upon calculating the total final offsetting requirements for the Compliance Period in accordance with the (a) above, then the CAA shall inform each aeroplane operator of its total final offsetting requirements for the Compliance Period by 30 November of the calendar year that follows the last year of the Compliance Period.

CORSIA.930 CORSIA Emissions Unit Programme's Eligibility Changes

The CAA will notify relevant aeroplane operators on programme eligibility changes of any CORSIA Eligible Emissions Unit Programmes, involving a decision by the Council to immediately revoke eligibility within 14 days of the publication of the changes by ICAO.

CORSIA.935 Reporting Emissions Unit Cancellation to ICAO

The CAA in accordance with the timeline as defined in Appendix 1 of this Regulation shall report to the ICAO the information as defined in the below table using an ICAO approved form.

Field#	***Data Field***	***Details***
Field 1	Aeroplane operators attributed to the State	1. Aeroplane operators attributed to the Sultanate of Oman with offsetting requirements in the reported Compliance Period
Field 2	Compliance Period years reported	2. Year(s) in the reported Compliance Period for which offsetting requirements are reconciled in the report
Field 3	Total final offsetting requirements	3. Total aggregated aeroplane operators' final offsetting requirements (in tonnes), as informed by the CAA
Field 4	Total quantity of emissions units cancelled	4. Total aggregated quantity of emissions units cancelled to reconcile the total final offsetting requirements in Field 3
Field 5	Consolidated identifying information for cancelled emissions units	For each batch of cancelled emissions units (batch defined as a contiguous quantity of serialized emissions units), identify the following: 5.a Quantity of emissions units cancelled; 5.b Start of serial numbers; 5.c End of serial numbers; 5.d Date of cancellation; 5.e CORSIA Eligible Emissions Unit Programme; 5.f Unit type; 5.g Host country; 5.h Methodology; 5.i Demonstration of unit date eligibility; and 5.j Programme-designated registry name.

Table 3 - Content of Emissions Unit Cancellation Report from The CAA to ICAO

CORSIA.940 Magnitude Checks by the CAA

(a) CAA shall perform an order of magnitude check of the Emissions Report to ensure the completeness of reported data, in accordance with the timeline, as defined in Appendix 1 of this Regulation.

(b) To facilitate order of magnitude checks and ensure the completeness of reported data, and where necessary to support the implementation of the requirements in this Regulation, the CAA shall share, upon agreement with another Member State's Administrating Authority, specific data and information contained in the aeroplane operator's Emissions Report for aeroplane operators performing flights to and from the requesting Member State.

(c) CAA shall inform concerned aeroplane operators on the requests for data sharing. In the absence of an agreement between the two States, this information shall not be disclosed to third parties.

(d) The CAA shall provide the name of the verification body used to verify each Emissions Report upon a request for information disclosure.

(e) The CAA shall perform an order of magnitude check of the EUCR in accordance with the timeline in Appendix 1 of this Regulation.

AMC to CORSIA.940 Sharing of Information on Correct Attribution of Flights to an Aeroplane Operators

(a) The CAA should share, upon a justified request from another ICAO Member State, data on aeroplane operators, where the request relates to the correct attribution of flights to aeroplane operators. This includes leased aeroplanes where there is a risk of incorrect attribution of flights due to the complexity of leasing and Parent/Subsidiary arrangements between aeroplane operators.

(b) In addition, the CAA should, at its discretion, support and request support from, other Member States and provide and get provided with flight information (e.g., from ATM systems), especially in cases where the flight is between two States which does not include the State to which the aeroplane operator is attributed. Such data includes origin and destination aerodromes, flight date and time, aircraft type.

(c) The CAA should inform concerned aeroplane operators of any request for information disclosure, as per CORSIA.935(d).

GM to CORSIA.940 Magnitude Checks by the CAA

(a) Further guidance material on the order of magnitude check is provided in the Environmental Technical Manual (Doc 9501), Volume IV — Procedures for demonstrating compliance with the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

(b) Such data and information which referred to in CORSIA.935(b) could include the following:

(1) aeroplane operator's name;

(2) reporting year;

(3) number of international flights, per aerodrome pair or State pair; and

(4) aeroplane and emissions data.

(c) As an example of leasing complexities provided below:

Operator A may lease its aeroplane to Operator B, with both operators using the same aeroplane during the year but Operator B not operating to the Member State making the request for information. The State regulating Operator A may want to confirm that the leased aeroplane is identified in the Emissions Report from Operator B to be confident that Operator A has not been under reported.

CORSIA.945 Accreditation of Verification Body

(a) The CAA shall submit to ICAO using the CORSIA Central Registry (CCR), a list of verification bodies accredited in the Sultanate of Oman (if applicable) annually by 30 November. The CAA may submit updates to this list to ICAO on a more frequent basis.

(b) The list referred to in (a) above shall contain the below information for each Verification Body:

(1) State (the Sultanate of Oman)

(2) Name of verification body and accreditation certificate number

(3) State of verification body registration

(4) Copy of accreditation certificate or weblink to online certificate

(5) Weblink to main national accreditation body website

(c) A verification body shall conduct the verification according to the requirements in Section 3 of the Appendix 6 of Annex 16 Vol. IV as amended.

GM to CORSIA.945 Verification Body

(a) Further information on the data field can be found in the ICAO document entitled "CORSIA Central Registry (CCR): Information and Data for Transparency" that is available from the ICAO CORSIA website.

(b) Further guidance material on performing the check to confirm the verification body's accreditation status and on the verification of Emission Report and Emissions Unit Cancellation Report is provided in the Chapter 3 Section 3.3 of the Environmental Technical Manual (Doc 9501), Volume IV – Procedures for demonstrating compliance with the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

CORSIA.950 Administrative Partnerships under CORSIA

(a) The CAA shall not delegate enforcement of the requirements in this Regulation, or its administrative tasks towards ICAO, to another Member State.

(b) The CAA may undertake administration processes of ICAO Annex 16 Vol. IV from another Member State through an administrative partnership based on bilateral agreement between the Sultanate of Oman and that Member State.

(c) When providing capacity support through an administrative partnership referred to in (b) above, the CAA shall notify ICAO about the contracting administrating authorities, affected aeroplane operators, scope and duration of the administrative partnership, and a copy of the bilateral agreement.

(d) The CAA shall not withdraw from an administrative partnership before completion of the reporting activities at the end of the reporting period, but it may withdraw from an administrative partnership according to the notice period defined in the bilateral agreement.

AMC to CORSIA.950(c) Provision of Capacity Support by the CAA

When the Sultanate of Oman is providing capacity support, the CAA should assess whether the administrating authority that has been delegated authority, to provide administering tasks for another State, has the required resources to offer such services.

GM to CORSIA.950 Administrative Partnerships under CORSIA

A template for, and guidance on, administrative partnerships is provided in Chapter 5 of the Environmental Technical Manual (Doc 9501), Volume IV – Procedures for demonstrating compliance with the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).

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