CIVIL AVIATION REQUIREMENTS

SECTION 10 – AVIATION ENVIRONMENT PROTECTION SERIES 'C' PART I

CARBON OFFSETTING AND REDUCTION SCHEME FOR INTERNATIONAL AVIATION (CORSIA)

ISSUE 2 (Revision 0)
July 2024

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OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION
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RECORD OF REVISION

This CAR has been issued to formulate regulations towards MRV and offsetting requirements for all aeroplane operators based on International Civil Aviation Organization's International Standards and Recommended Practices (SARPs) as contained in Annex-16, Environmental Protection, Volume-IV "Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)". The CAR has been developed in line with the first edition of the offsetting requirements as proposed by Committee on Aviation Environmental Protection (CAEP) based on the deliberations held in various meetings and their final recommendations contained in the above ICAO Annex. The Record of Revisions to the aforesaid CAR will be mentioned as follows:

Sl. No.	Issue Number	Revision Number	Date	Remarks
1.	Issue - I	Revision - 0	24/12/2018	Initial issue of CAR to adopt monitoring, reporting and verification (MRV) and offsetting requirements as contained in Annex-16, Volume-IV.
2.	Issue - 2	Revision - 0	XX/07/2024	Modification due to amendment in Annex 16, Volume IV

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CARBON OFFSETTING AND REDUCTION SCHEME FOR INTERNATIONAL AVIATION (CORSIA)

CHAPTER – 1: INTRODUCTION

1.1 General

Rule 29C of the Aircraft Rules, 1937 stipulates that the Director-General may lay down standards and procedures not inconsistent with the Aircraft Act, 1934 (22 of 1934) and the rules made thereunder to carry out the Convention and any Annex thereto. This Civil Aviation Requirements (CAR) is issued in compliance to Section 5A sub-section 1 of the Aircraft Act, 1934 in conjunction with rule 29C of the Aircraft Rules 1937.

This CAR is issued under the provisions of Rule 133A of the Aircraft Rules, 1937, for information, guidance and compliance by all such organizations who operates flights to international destinations or intend to operate flights to such international destinations in future under the provisions mentioned in this CAR.

The requirements contained in this CAR are in-line with the requirements as mentioned in ICAO Annex-16, Volume-IV. It prescribes applicability, monitoring, reporting and verification (MRV) of aeroplane operator annual CO_2 emissions, CO_2 offsetting requirements from international flights, emission reductions from the use of sustainable aviation fuels, requirements for verification and verification bodies, purchase and cancellation of emissions units, and compliance procedure to the above requirements.

1.2 Introduction to Carbon Offsetting and Reduction Scheme for International Aviation:

I. The 39th ICAO General Assembly, held in October 2016, concluded with the adoption of a global market-based measure scheme to address CO_2 emissions from international aviation, known as "**Carbon Offsetting & Reduction Scheme for International Aviation (CORSIA)**" which was approved by ICAO Council on 27th June, 2018. This market-based measure was adopted based on ICAO's aspirational goal of Carbon Neutral Growth beyond 2020.

II. ICAO has adopted following aspirational goals in its 37th Assembly to address its climate impact:
- An annual improvement of 2% in fuel efficiency from 2009 until 2020,
- To achieve Carbon Neutral Growth from 2020 to stabilize the net CO_2 emissions.

1.3 Applicability: The requirements as prescribed in this CAR are applicable to an aeroplane operator that produces annual CO_2 emissions greater than 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 on or after 1 January 2019, with the exception of humanitarian, medical and firefighting flights.

The international flights preceding or following a humanitarian, medical or firefighting flight will be exempted 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 DGCA.

1.4 CORSIA Design Elements:

I. CORSIA scheme has mainly two design elements, viz., Monitoring, Reporting & Verification (MRV) and Offsetting. MRV is a system to capture fuel consumptions from international operations by an operator and to calculate the carbon emissions thereon for reporting to DGCA annually. Whereas, in offsetting, an operator is required to offset its carbon emissions from its international operations which is due to increase in emissions levels compare to the baseline emissions.

II. **Monitoring, Reporting & Verification (MRV):** One of the main features of CORSIA is MRV system:

- **Monitoring** of fuel use on each international flight and calculation of CO_2 emissions,
- **Reporting** of CO_2 emissions information between aeroplane operators, DGCA and ICAO, and
- **Verification** of reported emissions data to ensure completeness and to avoid misstatements.

III. **Offsetting Requirements:** While the reporting of emissions will take place on an annual basis, offsetting requirements will be aggregated by 3-year compliance period. For every compliance cycle, operators will need to offset and cancel a quantity of CORSIA eligible emissions units corresponding to their offsetting requirements. DGCA will notify operators of their final offsetting requirements for each 3-year period by 30th November of the next year. Operators will, however, also be informed on an annual basis (also by 30th November) of the offsetting requirements associated with each individual compliance year.

IV. **Compliance Period:** The offsetting requirements need to be fulfilled by the operators during each compliance period which is of three years duration. There are five, 3-year compliance periods, as follows, starting from 2021:

- 2021-2023: Pilot phase,
- 2024-2026: First phase, and
- 2027-2029, 2030-2032, 2032-2035: Second phase.

An operator will report its CO_2 emissions on an annual basis corresponding to each calendar years and will offset on compliance period basis.

V. **Phased Implementation:** In order to address the concerns of developing states and to take into account the special circumstances and respective capabilities of states, CORSIA will be implemented in phases. The phased implementation, however, only relates to offsetting requirements.

VI. **Pilot Phase (2021-2023) and First Phase (2024-2026):** The Pilot and First phases are voluntary in nature and will apply to only those states that opt to participate in these phases. From 2021 until 2026, offsetting requirements will only apply to international flights between states that volunteer to participate in the pilot and/or first phase i.e., all routes between two participating States. Any operator flying between volunteering states will be subject to offsetting requirements, irrespective of participation of their State in the voluntary phases. All other international flights to and from states that have not volunteered, will be exempt from offsetting requirements.

VII. **Second Phase (2027 – 2035):** The Second phase is mandatory in nature and will apply to all those states who meets the RTK criteria or the exempted states who volunteers to participate in the scheme. From 2027, offsetting requirements will apply to all international flights including those that did not volunteer to be part of the pilot/first phases.

VIII. The Second Phase of CORSIA applies to all ICAO Member States except to those States that meet the following aviation-related criteria:

- States with individual share of international aviation activities in Revenue Tonne Kilo meters (RTKs), in year 2018 below 0.5 per cent of total RTKs, and
- States that are not part of the list of States that account for 90 per cent of total RTKs when sorted from the highest to the lowest amount of individual RTKs.

IX. **Voluntary Participation:** States who wish to participate in CORSIA voluntarily, can decide to join the scheme at the beginning of any year, however, they shall communicate their decision to ICAO before 30th June of the preceding year. States who decide to participate in CORSIA on a voluntary basis may discontinue their voluntary participation from the scheme from 1st January of any given year, provided they inform ICAO not later than 30th June of the preceding year. The list of such participating States will be published on ICAO website who intend to voluntarily participate in CORSIA from its outset.

X. **Route-based Approach:** CORSIA shall apply to all international flights on the routes between two States participating in the CORSIA for offsetting requirements, in order to have complete emissions coverage and to minimizing market distortion between aircraft operators on the same routes.

CHAPTER – 2: ADMINISTRATION

2.1 Attribution of international flights to an aeroplane operator:

I. As CORSIA is applicable to international flights only, all aeroplane operators shall identify their international flights using ICAO Designator or the Registration Marks. In case, an international flight could not be identified based on its ICAO Designator or Registration Mark, that flight shall be attributed to the owner of the aeroplane operator.

2.2 Attribution of an aeroplane operator to a State:

I. The aeroplane operator shall also ensure correct attribution towards DGCA to which the aeroplane operator fulfils its requirements by using either ICAO Designator or Air Operator Certificate (AOC). In case, an aeroplane operator does not possess an ICAO Designator or Air Operator Certificate, the State where the aeroplane operator is registered as juridical person or reside, shall be considered for its attribution purpose.

II. In case, the aeroplane operator changes its ICAO Designator, AOC or place of juridical registration/residence and is subsequently attributed to a new State, but it is not establishing a new entity or a subsidiary, then the new State shall become the State to which the aeroplane operator fulfils its requirements under this CAR at the start of the next compliance period. Till such time, the aeroplane operator shall demonstrate compliance with the requirements of this CAR to DGCA only.

III. The aeroplane operator with a wholly owned subsidiary aeroplane operator(s) that is legally registered with DGCA, can submit a request to DGCA for treating both/all the operators as a single entity for demonstrating compliance with the requirements of this CAR provided they submit in writing, that the data from both/all the aeroplane operators are maintained separately and can be provided to DGCA as and when required. DGCA may consider their request provided the aeroplane operator submits substantiation documents to demonstrate that they meet the pre-requisite criteria

2.3 CORSIA Focal Point:

I. The aeroplane operator shall designate a Focal Point(s), possessing sound knowledge of CORSIA and related environmental protection matters, in their respective organizations duly approved by their management, for approval by DGCA

II. The Focal Point(s) shall act as the contact person for DGCA for all CORSIA related issues and shall be responsible for demonstrating compliance to this CAR

requirements including submission of all data, information, reports as and when required under CORSIA.

2.4 Record Keeping:

I. The aeroplane operator, responsible for demonstrating compliance to the requirements contained in this CAR, shall maintain all relevant records pertaining to their fuel consumption and corresponding emissions data for at least 10 years.

II. The aeroplane operator should also maintain and keep all records relevant to its CO_2 emissions per State and Aerodrome pair submitted to DGCA for the purpose of calculating its offsetting requirements at a later stage.

2.5 Compliance Periods and Timeline:

I. The aeroplane operators shall comply with the requirements as contained in this CAR and shall adhere strictly with the timeline provided by DGCA from time to time.

2.6 Oversight by DGCA:

I. DGCA may carry out oversight of the aeroplane operators regarding their correct attribution to the State and international flights, annual fuel and emissions related data from international operations, Emissions Monitoring Plan, Annual Emissions Report, Emissions Unit Cancellation Report, Data Management, Data Gap Analysis/management and Record Keeping.

2.7 Data Protection:

I. As data or information collected under ICAO's CORSIA scheme are considered commercially sensitive from aeroplane operator's prospective and hence disclosure of such data or information shall qualify for data protection. Such data or information shall not be disclosed to any third party, unless there is a reasonable evidence that disclosing of such data or information will not adversely affect the aeroplane operator from commercial point of view. Any third party seeking disclosure of any such data or information, shall justify its purpose for release and will be provided only if it is considered necessary by DGCA and the same can be disclosed only in a format as deemed suitable by DGCA.

II. In addition to this, the express consent of the originator of the data or information is also required for disclosure of such data or information collected under CORSIA. Further, under such circumstances, DGCA shall not be liable for any commercial loss to such originator on account of such disclosure. However, in the case of State requirements or obligations towards International Civil Aviation Organization (ICAO), DGCA may provide such data or information without any express consent of the originator.

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CHAPTER – 3: MONITORING OF CO_2 EMISSIONS.

3.1 Applicability:

I. The requirements of this chapter shall be applicable to all aeroplane operators including scheduled, non-scheduled, cargo, general aviation and private operators, producing annual CO_2 emissions greater than 10,000 tonnes from international operations using an aeroplane(s) with a maximum certificated take-off mass greater than 5,700 kg, on or after 1 January 2019 onwards.

II. The requirements of this chapter shall not apply to those aeroplane operators whose annual CO_2 emissions from international flights, is equal or less than 10,000 tonnes. However, in order to monitor their annual emissions from international flights, the aeroplane operator shall submit fuel consumption data from international operations to DGCA on annual basis as per the simplified template provided by DGCA.

III. The requirements of this chapter shall not apply to Head of State flights and flights used by military, police, customs, etc. The requirements of this chapter shall not also apply to any international flights used for humanitarian, medical or fire-fighting purposes. One or more flights preceding or following a humanitarian, medical or fire-fighting flight(s) are also exempted provided such flight(s) 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.

IV. The aeroplane operator shall have to provide enough supporting evidence of such flights to DGCA and the verification body for verification purpose, in order to consider these flights exempted under MRV requirements.

V. The requirements of this chapter shall be applicable to an aeroplane operator who starts its international operations after 1st January, 2019 (i.e., a New Entrant). However, a new entrant will be liable for monitoring, reporting and verification requirements from the 1st January of the next year after its annual CO_2 emissions from international operations exceeds 10,000 tonnes in the preceding year.

VI. Aeroplane operator whose annual CO_2 emissions value is very close to the threshold of annual 10,000 tonnes CO_2 emissions from international flights, should approach DGCA for further necessary guidance.

VII. Also, an aeroplane operator that was within the scope of applicability the previous year but falls outside of scope in the given year, should notify to DGCA.

3.2 Emissions Monitoring Plan (EMP):

I. The aeroplane operator shall submit an Emissions Monitoring Plan (EMP) to DGCA for approval, containing all relevant information as provided in the template issued by DGCA. The aeroplane operator shall also develop a CORSIA Procedure Manual for their internal use. The manual shall contain the information as mentioned in the Template, developed by DGCA.

II. An aeroplane operator who starts international operations after 1st January (i.e., a New Entrant), 2019, shall also submit an Emissions Monitoring Plan to DGCA within three months after it exceeds the threshold value of annual 10,000 tonnes of emissions.

III. The aeroplane operator that produces annual CO2 emissions greater than 10,000 tonnes after 1st January 2021 for the first time without qualifying as a new entrant shall submit an Emissions Monitoring Plan within three months.

IV. The aeroplane operator shall resubmit the Emissions Monitoring Plan to DGCA immediately, with valid justification, whenever there is a significant material change in the Emissions Monitoring Plan. For this purpose, the definition of significant change shall be referred. However, for non-significant material change in the EMP, the aeroplane operator shall also inform, in writing, to DGCA on a quarterly basis.

V. In cases where the aeroplane operator produces annual CO2 emissions greater than 10,000 tonnes after 1st January 2021 for the first time without qualifying as a new entrant falls into scope near the end of given year, or does not realise that it has fallen into scope until the beginning of next year, the operator shall engage with DGCA as soon as possible. In such cases, operator should coordinate with DGCA to meet the deadlines for submission & approval of EMP and completion of verification process.

VI. The aeroplane operator should consult DGCA well before falling into scope and include the development of the Emissions Monitoring Plan 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 CAR.

3.3 Monitoring of CO_2 Emissions:

I. All aeroplane operators shall monitor their annual fuel consumption and emissions data from international operations from 1st January, 2019 onwards annually, on calendar basis. For the monitoring purposes, the aeroplane operator has to

establish a monitoring procedure and shall be properly document it in their Emissions Monitoring Plan (EMP) with cross reference to their all internal documents.

II. For preparing the Emission Monitoring Plan, all aeroplane operators shall use the template and the guidance material provided by DGCA. The EMP shall be approved by DGCA and the aeroplane operators shall strictly follow the same monitoring procedure as mentioned in their approved EMP for the entire compliance period.

III. The aeroplane operators whose annual carbon emissions is near to 10,000 tonnes, shall establish a simplified procedure to monitor their fuel consumption data from international operations and shall report the same to DGCA on annual basis. They shall use a simplified Fuel Reporting Form provided by DGCA and shall continue using the same Form till their CO_2 emissions exceeds the threshold value of 10,000 tonnes in a particular year.

IV. **For 2019-2020 period:** The aeroplane operator with annual CO_2 emissions from international flights, greater than or equal to 5,00,000 tonnes shall use a Fuel Use Monitoring Method. An aeroplane operator whose annual CO_2 emissions from international flights is greater than or equal to 5, 00,000 tonnes, cannot use CERT as a tool for generating Annual Emissions Report. However, the same can be used for estimation and data gap purposes.

V. The aeroplane operator with annual CO_2 emissions from international flights, less than 5,00,000 tonnes shall either use a Fuel Use Monitoring Method or the ICAO CORSIA CO_2 Estimation and Reporting Tool (CERT).

VI. The aeroplane operator may use the same monitoring method during the 2019-2020 period that it expects to use during the 2021-2023 period, taking into account the projected annual CO_2 emissions for the period 2021-2023. In case, the aeroplane operator desires to change its monitoring method, it will submit a revised Emissions Monitoring Plan to DGCA in order to implement the new monitoring method from 1st January 2021 onward.

VII. In case, the aeroplane operator's Emissions Monitoring Plan is found to be incomplete and/or inconsistent with the eligible Fuel Use Monitoring Method, DGCA shall direct the aeroplane operator to resubmit the Emissions Monitoring Plan by amending the EMP with correct information.

VIII. For **2021-2035 period:** The aeroplane operator, with annual CO_2 emissions from international flights subject to offsetting requirements between participating States, greater than or equal to 50,000 tonnes, shall use a Fuel Use Monitoring Method only for those flights. However, for international flights not subjected to offsetting requirements, the aeroplane operator shall either use a Fuel Use

Monitoring Method or CERT. Further, an aeroplane operator whose annual CO_2 emissions from international flights subject to offsetting requirements between participating States is greater than or equal to 50,000 tonnes, cannot use CERT as a tool for generating Annual Emissions Report.

IX. The aeroplane operator, with annual CO_2 emissions from international flights subject to offsetting requirements between participating States, less than 50,000 tonnes, shall either use a Fuel Use Monitoring Method or CERT. However, 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 particular year and the next year as well, the aeroplane operator shall submit a revised Emissions Monitoring Plan to DGCA in the next subsequent (third) year indicating an appropriate Fuel Use Monitoring Method to be used from on 1st January of the fourth year onwards.

X. Similarly, if the aeroplane operator's annual CO_2 emissions from international flights subject to offsetting requirements between participating States, decreases below the threshold of 50,000 tonnes in two consecutive years, the aeroplane operator may change its monitoring method from 1st January of the fourth year. However, if the aeroplane operator chooses to change its monitoring method, an updated Emissions Monitoring Plan will be required to be submitted to DGCA in the third year.

XI. The aeroplane operator that produces annual CO2 emissions greater than 10,000 tonnes after 1st January 2021 for the first time without qualifying as a new entrant may use either a Fuel Use Monitoring Method or CERT in the year when it first meets the requirements. Further, if such operator does not have sufficient information to use Fuel Use Monitoring Method, DGCA may approve use of CERT for a period lasting no later than 30th June in the year after the aeroplane operator first meets the aforementioned requirements.

3.4 Calculation of CO_2 emissions from aeroplane fuel use:

I. The aeroplane operator using a Fuel Use Monitoring Method, shall determine the CO_2 emissions from international flights using the following equation:

CO_2 Emissions (in tonnes) = $\sum$Mass of fuel (in tonnes) * Fuel conversion factor

For the purpose of calculating CO_2 emissions, the mass of fuel used includes all aviation fuels. An aeroplane operator shall use the following value of fuel conversion factor: for Jet-A fuel = 3.16 (in kg CO_2/kg fuel) and for AvGas or Jet-B fuel = 3.10 (in kg CO_2/kg fuel). The fuel conversion factor for Jet-A fuel shall also be used for Jet-A1, TS-1 and No.3 Jet fuels.

II. The aeroplane operator shall convert the volume (if the fuel uplift is measured in units of volume) of the fuel into mass by applying a fuel density value before using the aforesaid formula.

III. The aeroplane operator shall use an actual fuel density provided by the fuel vendor. In case, an actual fuel density value is not available, the operator shall use the standard value of 0.8 kg per litre for operational and safety reasons. However, the operator shall mention about the use of actual or standard fuel density in their Emission Monitoring Plan along with a reference to the relevant aeroplane operator's documentation.

3.5 Monitoring of CORSIA eligible fuels claims:

I. An aeroplane operator can reduce their emissions offset requirements by using CORSIA eligible fuels in place of conventional fuel. However, an aeroplane operator who intends to claim such emissions reductions shall use an ICAO approved CORSIA eligible fuel that meets the "CORSIA Sustainability Criteria" as prescribed at ICAO CORSIA website.

II. Further, the aeroplane operator shall only use CORSIA eligible fuels from fuel producers that are certified by an approved "Sustainable Certification Scheme" and meet the requirements of "CORSIA Eligibility Framework and Requirements for Sustainability Certification Schemes" as prescribed at ICAO CORSIA website.

III. However, the aeroplane operator has to provide evidences in respect of the CORSIA eligible fuels purchased that meet ICAO's sustainability criteria and certification scheme. In case, the aeroplane operator cannot demonstrate the compliance of the CORSIA eligible fuels with the sustainability criteria, then it shall be considered as conventional aviation fuel and no emissions reduction benefits shall be provided to the aeroplane operator.

IV. The claims of emissions reductions from the use of CORSIA eligible fuels by an aeroplane operator shall be based on mass of CORSIA eligible fuels according to the available purchasing and blending invoices/records.

V. The emissions reductions from the use of a CORSIA eligible fuels are calculated based on the approved Life Cycle Emissions value (L_{CEF}) of the CORSIA eligible fuels used by the operator. The aeroplane operator shall provide necessary information on emissions reductions from using CORSIA eligible fuel in their Annual Emissions Report whenever such emissions reductions are availed.

CHAPTER – 4: REPORTING OF CO2 EMISSIONS.

4.1 The aeroplane operator shall use the standardised Annual Emissions Report template provided by DGCA for submitting their annual Emissions Report. The aeroplane operator shall submit a copy of the verified Annual Emissions Report and the associated Verification Report to DGCA by 31st March of every year for the preceding year. The aeroplane operator shall include the number of international flights operated in that year and CO2 emissions, both at the level of State pair and Aerodrome pair in their respective Annual Emissions Report.

4.2 While submitting the consolidated CO_2 emissions from international flights, including subsidiary aeroplane operators, the aeroplane operator shall ensure that the Annual Emissions Report submitted to DGCA also include the disaggregated data relating to each subsidiary aeroplane operator.

4.3 Annual Emissions Report

I. The Emissions Report shall include information as per the guidance given by DGCA.
II. The aeroplane operator shall use the standardised Annual Emissions Report template provided by DGCA.
III. An aeroplane operator's verified Emissions Report shall be submitted to DGCA.

4.4 Publication of CO2 Emissions

I. In specific circumstances where an aeroplane operator having a very limited number of State pairs operations that are subject to offset requirements and/or not subject to offset requirements, the aeroplane operator may request in writing to DGCA that such data shall not be published at the aeroplane operator level explaining the reasons why such data shall not be disclosed with proper justification. Based on the justification provided by the aeroplane operator, DGCA may consider about the confidentiality of such data and discloser of such data at aeroplane operator level. However, the annual CO_2 emissions of an aeroplane operator on a given State pair will be considered as commercially sensitive only if they are determined using a Fuel Use Monitoring Method.

II. 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 DGCA that such data not be published at State pair level, explaining the reasons why disclosure would harm their commercial interests. Based on this request, DGCA shall determine whether this data is confidential.

III. However, DGCA may also at its discretion, decide over the confidentiality of data as and when required.

IV. All aeroplane operator data which is deemed confidential in accordance with above paragraphs shall be aggregated without attribution to the specific aeroplane operator.

4.5 Reporting of CORSIA Eligible Fuels

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

II. The aeroplane operator shall also provide a declaration of all other GHG schemes, it participates in, where the emissions reductions from the use of CORSIA eligible fuels may be claimed, and a declaration that it has not made claims for the same batches of CORSIA eligible fuel under other schemes.

III. To claim emissions reductions from the use of CORSIA eligible fuels in the Emissions Report, the aeroplane operator shall provide the information to DGCA, within a given compliance period for all CORSIA eligible fuel received by a blender by the end of that compliance period. The information provided is through to the blend point, and includes information received from both the neat (unblended) fuel producer and the fuel blender.

IV. The aeroplane operator should 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. However, for any blending that occurs in the second half of the final year of a compliance period, DGCA should determine whether any flexibility is needed to be provided to the aeroplane operator in terms of submitting reports.

V. 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), this fuel supplier shall provide all of the requisite documentation in order for the emissions reductions from the use of CORSIA eligible fuels to be claimed by the aeroplane operator.

CHAPTER – 5: VERIFICATION OF CO2 EMISSIONS.

5.1 Verification of CO_2 emissions:

I. For the purpose of cross-check of annual reported data, the aeroplane operator should perform an internal pre-verification of its Annual Emissions Report prior to submitting the same for verification to an external verifier.

II. The aeroplane operator shall use the template for internal verification as developed by DGCA and shall submit the report, if required, by DGCA or the verification body.

III. The aeroplane operator shall engage a verification body for the verification of its Annual Emissions Report empanelled by DGCA for this purpose.

IV. Before engaging the verification body, the aeroplane operator should conduct a check to confirm the verification body's accreditation status for the purpose of this CAR.

V. More details about a verification body and the relevant requirements about its accreditation is provided in details at Appendix -III of this CAR.

VI. The aeroplane operator shall enter into an agreement with the Verification Body whose services will be hired by the aeroplane operator clearly mentioning the "Terms & Conditions" for carrying out the verification including the type of supporting documents to be provided by the operator for facilitating the verification.

VII. Following the verification of the Emissions Report by the verification body, the aeroplane operator and the verification body shall both independently submit, upon authorization of the operator, a copy of the Emissions Report and associated Verification Report to DGCA as per the timeline specified in Chapter-3 above.

VIII. DGCA shall perform an order of magnitude check of the Emission and all related reports, and same shall be facilitated by the aeroplane operator to ensure the righteousness and completeness of reported data.

5.2 Verification of CORSIA eligible fuels:

I. Verification of CORSIA Eligible FuelsFuel 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.

II. The aeroplane operator shall ensure that they or their designated representative, has audit rights of the production records for the CORSIA Eligible fuels that it purchases from a vendor.

III. When an audit provision is triggered, and an audit of the fuel producer is undertaken, 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 for the purpose of this CAR.

IV. 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 States may elect to independently audit the production records of the CORSIA eligible fuel producer in order to provide further assurance.

V. 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.

5.3 Data gaps:

I. The aeroplane operator shall take utmost care to avoid any data gaps in their annual Emissions Report while submitting such reports to the verification body and DGCA. Any such data gaps that are identified by the verification body may lead non-compliance with the CORSIA requirements and ultimately could result in **Found unsatisfactory** of an Annual Emissions Report by the verification body. In order to avoid any data gap, the aeroplane operator shall cross check the fuel monitoring data on a monthly basis for validation of data.

II. The aeroplane operator using a Fuel Use Monitoring Method, shall fill data gaps using the ICAO CERT, provided that the data gaps during a compliance period do not exceed the following thresholds:

- **2019-2020 period:** 5 percent of total number of international flights in that reporting year.
- **2021-2035 period:** 5 percent of total number of international flights subject to offsetting requirements in that reporting year.

III. The aeroplane operator shall correct issues identified with the data and information management system in a timely manner (monthly basis) to mitigate ongoing data gaps and system weaknesses so that the data gaps don't exceed the threshold as mentioned in paragraph (ii) above.

IV. When the threshold is exceeded, the aeroplane operator shall engage with DGCA to take remedial action along with the percentage of international flights, for the 2019-2020 period or flights subject to offsetting requirements, for the 2021-2035 period, that had data gaps and provide an explanation to DGCA in their Annual Emissions Report.

V. The aeroplane operator shall fill all data gaps and correct systematic errors and misstatements prior to the submission of the Annual Emissions Report to DGCA. The aeroplane operator shall ensure that procedure for identifying and rectifying any such data gaps is properly documented in their CORSIA Procedure Manual and EMP which shall be referred by DGCA in case of rectification process of such data gaps. The aeroplane operator shall also submit a copy of their CORSIA Procedure Manual to DGCA, however, the same shall not require DGCA's approval.

5.4 Error correction to Emissions Reports

I. If an error in the aeroplane operator's reported emissions is identified by DGCA, the verification body, or the aeroplane operator after the reported CO2 emissions have been submitted to ICAO in accordance with the timeline specified in Chapter-3, DGCA shall update the reported CO2 emissions to address the error. DGCA 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.

II. DGCA shall report an error in the aeroplane operator's CO2 emissions and the follow-up result of the related adjustment to ICAO.

III. No adjustments will be made to the total sectoral CO2 emissions or the Sector's Growth Factor (SGF), as a result of error correction to Emissions Reports.

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CHAPTER – 6: CO_2 OFFSETTING REQUIREMENTS FROM INTERNATIONAL FLIGHTS.

6.1 Applicability of CO_2 offsetting requirements:

I. As such, the offsetting requirements are applicable from 1st January 2021 to 31st December 2035. However, for Indian operators with international flights

- between India and other States, the offsetting requirements of this Chapter shall be applicable from 1st January, 2027 onwards, and
- between two other participating States, the offsetting requirements of this Chapter shall be applicable for the offsetting years, if the States are listed in ICAO document entitled "CORSIA States for Chapter 3 State Pairs" for that offsetting year.

II. The requirements of this Chapter shall not be applicable to a new entrant aeroplane operator for the first three years starting in the year when its annual CO_2 emissions from international operations exceeds 10,000 tonnes or until its annual CO_2 emissions exceeds 0.1 % of total CO_2 emissions from international flights in 2019, whichever occurs earlier. The requirements shall then be applicable from 1st January of the subsequent year to the new entrant.

6.2 CO_2 offsetting requirements:

I. The amount of CO_2 emissions of an aeroplane operator, required to be offset in a given year from 1 January 2024 to 31 December 2035, prior to consideration of the CORSIA eligible fuels, shall be calculated as follows:

Operator's Offsetting Requirements in a given year = Operator's CO_2 emissions in that year * Sector's Growth Factor.

Only an aeroplane operator's emissions on state-pairs subject to offsetting requirements (i.e., between two participating states) will be taken into account in the calculation of offsetting requirements.

II. The Sector's Growth Factor applicable for a given year, will be published by ICAO and is defined as

SGF = [(Total sectoral CO_2 emissions in the given year (Y) – 85% of total annual sectoral CO_2 emissions during 2019 (between the participating states)) / Total sectoral CO_2 emissions in the given year (Y)].

Sectoral emissions in a given year do not include the CO_2 emissions from new entrants during their exception period.

III. The sectoral baseline will be re-calculated every year as the routes included in the CORSIA changes due to participation/withdrawal of more number of States. This can happen when new States volunteer to participate or States decide to withdraw their voluntary participation in a particular year. Therefore, total annual sectoral CO2 emissions in 2019 covered by State pairs in a particular year will be recalculated.

IV. DGCA will calculate, for each of the aeroplane operators, the amount of CO_2 emissions required to be offset in a given year from 1st January 2021 to 31st December 2035 (without emissions reduction from use of CORSIA eligible fuels), every year as follows:

Aeroplane operator's offsetting requirements in the given year Y = Percent Sectoral in the given year Y * (Aeroplane operator's CO_2 emissions in the given year Y * Sector's Growth Factor) + Percent Individual in the given year Y * (Aeroplane operator's CO_2 emissions in the given year Y * Aeroplane operator's Growth Factor).

Where percent individual in the given year y = (100% - Percent Sectoral in the given year y).

The table below gives an overview of CO_2 offsetting requirements on a sectoral and individual basis during different compliance periods.

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%

V. ICAO will provide the applicable value of Sector Growth Factor on yearly basis.

VI. DGCA will also calculate the aeroplane operator's Growth Factor for a given year in accordance with the CO_2 emissions from the verified Emissions Reports submitted by aeroplane operators which is calculated as:

[(Total aeroplane operator's CO_2 emissions in the given year (Y) - 85% of total annual aeroplane operator's CO_2 emissions during 2019)/ Total aeroplane operator's CO_2 emissions in the given year (Y)].

VII. When an aeroplane operator does not have CO2 emissions in 2019, and does not qualify as a new entrant, DGCA shall use a value of 10,000 tonnes of CO2 as equal to 85% of total annual aeroplane operator's CO2 emissions during 2019.

VIII. DGCA will inform the aeroplane operator of its final offsetting requirements within the stipulated timeline, upon calculating the final offsetting requirements for a given compliance period of each of the aeroplane operators.

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Director General of Civil Aviation

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Appendix I: EMISSIONS REDUCTIONS FROM THE USE OF CORSIA ELIGIBLE FUELS.

1.1. Emissions reductions from the use of CORSIA Eligible fuels:

I. The aeroplane operator who intends to claim for emissions reductions from the use of CORSIA eligible fuels in a given year shall compute emissions reductions as follow:

Emissions reductions from the use of CORSIA eligible fuels in the given year Y (in tonnes) = [∑Total mass of a neat CORSIA eligible fuel claimed in the given year Y (in tonnes) * {1 - (L_{CEF}/LC)}] * Fuel Conversion Factor.

The aeroplane operator shall use the value of fuel conversion factor for Jet-A fuel = 3.16 kg CO_2/kg fuel, Jet-A1 fuel, TS-1 fuel, or No. 3 Jet fuel and for AvGas or Jet-B fuel = 3.10 kg CO_2/kg fuel.

The Emissions Reduction Factor (ERF_f) of a CORSIA eligible fuel is the ratio (1- L_{CEF} /LC) where L_{CEF} = Life cycle emissions value for a CORSIA eligible fuels (in gCO_2e/MJ) and LC = Life cycle emissions values for a conventional aviation fuel, 89 gCO2e/MJ for Jet-A fuel, Jet-A1 fuel, Jet-B fuel, TS-1 fuel, or No. 3 Jet fuel and equal to 95 gCO2e/MJ for AvGas

II. 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 up for all CORSIA eligible fuels.

III. In order to use the value for both Default Life Cycle Emissions value and Actual Life Cycle Emissions value when used for the calculation of CORSIA eligible fuels, the aeroplane operator shall approach DGCA for the values to be used.

IV. If an Actual Life Cycle Emissions value is used, then an approved Sustainability Certification Scheme shall ensure that the methodology used for calculating Actual Life Cycle Emissions values has been applied correctly.

1.2. Total final CO_2 offsetting requirements for a given compliance period with emissions reductions from the use of CORSIA eligible fuels:

I. 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 year from 1st January 2021 to 31st December 2035, shall be calculated by DGCA as follows:

Aeroplane operator's total final offsetting requirements in the given compliance period = ∑Aeroplane operator's total offsetting requirements

in the given years of the compliance period - ∑Emissions reductions from the use of CORSIA eligible fuels in the given years of the compliance period.

II. If the sum of the aeroplane operator's offsetting requirements in the three years of a given compliance period is less than 3,000 tonnes of CO2, then the aeroplane operator has no offsetting requirements for the compliance period. However, the aeroplane operator may choose to voluntarily engage DGCA in order to offset such emissions.

III. Further, the aeroplane operator shall only use CORSIA eligible fuels from fuel producers that are certified by an approved "Sustainable Certification Scheme" and meet the requirements of "CORSIA Eligibility Framework and Requirements for Sustainability Certification Schemes" as prescribed at ICAO CORSIA website.

IV. However, the aeroplane operator has to provide evidences in respect of the CORSIA eligible fuels purchased that meet ICAO's sustainability criteria and certification scheme. In case, the aeroplane operator cannot demonstrate the compliance of the CORSIA eligible fuels with the sustainability criteria, then it shall be considered as conventional aviation fuel and no emissions reduction benefits shall be provided to the aeroplane operator.

V. The claims of emissions reductions from the use of CORSIA eligible fuels by an aeroplane operator shall be based on mass of CORSIA eligible fuels according to the available purchasing and blending invoices/records.

VI. The emissions reductions from the use of a CORSIA eligible fuels are calculated based on the approved Life Cycle Emissions value (L_{CEF}) of the CORSIA eligible fuels used by the operator. The aeroplane operator shall provide necessary information on emissions reductions from using CORSIA eligible fuel in their Annual Emissions Report whenever such emissions reductions are availed.

VII. An aeroplane operator cannot claim the amount of CORSIA Eligible Fuels that have been sold to a third party or claimed under another greenhouse gas emissions scheme. The aeroplane operator can only claim for the amount of CORSIA Eligible Fuels that has been actually utilized by them on international operations with proper evidences. Further, the aeroplane operator is required to provide a declaration of all other Greenhouse Gas schemes it participates in where the emissions reductions from the use of CORSIA Eligible Fuels may be claimed and a declaration that it has not made claims for the same batches of CORSIA Eligible Fuel under these other schemes.

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

IX. Further, the blending date of the CORSIA Eligible Fuel is also very important while claiming emissions reduction. An aeroplane operator can only claim a reduction to its offsetting requirements from the use of such fuel that was blended during the associated compliance period. An aeroplane operator may therefore purchase a batch of CORSIA Eligible Fuel at an earlier date and make the claim in a later compliance period during which the actual blending took place.

X. If the aeroplane operator's total final offsetting requirements during a compliance period is zero or negative, then the aeroplane operator has no offsetting requirements for that compliance period. However, the negative offsetting requirements shall not be carried forward to subsequent compliance periods.

XI. The aeroplane operator's total final offsetting requirements during a compliance period shall be rounded up to the nearest tonne of CO_2.

XII. After calculating the final offsetting requirements for a given compliance period of each of the aeroplane operators, DGCA will inform the aeroplane operator of their final offsetting requirements individually within the stipulated timeline.

XIII. The aeroplane operator shall then meet their offsetting requirements through purchasing and cancelling CORSIA Eligible Emissions Units.

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APPENDIX II: EMISSIONS UNITS.

1. Applicability of Emissions Units

I. The requirements of this chapter shall be applicable to an aeroplane operator who has to demonstrate compliance against its offsetting requirements by purchasing CORSIA Eligible Emissions Units. The list of CORSIA Eligible Emissions Units will be made available at ICAO CORSIA website. In case, an aeroplane operator is not clear about which units are eligible under CORSIA, they shall approach DGCA for clarity. Under any circumstances, emissions units other than CORSIA Eligible Emissions Units, as mentioned by ICAO, shall not be used for showing compliance towards offsetting requirements. The aeroplane operators shall be responsible for purchase of such emissions units.

2. Cancelling CORSIA Eligible Emissions Units:

I. The aeroplane operator shall meet its offsetting requirements by cancelling CORSIA Eligible Emissions Units in a quantity equal to the sum of its final offsetting requirements for a given compliance period. The CORSIA Eligible Emissions Units are units that meet the ICAO approved CORSIA Emissions Unit Eligibility Criteria as provided by ICAO at their website and can be used for demonstrating compliance to meet its offsetting requirements under CORSIA.

II. To fulfil the provisions of paragraph (i) above, the aeroplane operator shall:

a) Cancel such CORSIA Eligible Emissions Units within a registry designated by a CORSIA Eligible Emissions Unit Programme within the stipulated timeline, and

b) Request each CORSIA Eligible Emissions Unit Programme registry to make visible on the registry's public website, information regarding cancelled CORSIA Eligible Emissions Units for a given compliance period of each aeroplane operator. Such information for each cancelled CORSIA Eligible Emissions Unit shall include the consolidated identifying information such as Quantity of emissions units cancelled, Start of serial numbers, End of serial numbers, Date of cancellation, Eligible emissions unit programme, Unit type, Host country, Methodology, Demonstration of unit date eligibility and aeroplane operator in whose name the units were cancelled.

III. "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".

3. Reporting emissions unit cancellation:

I. To meet its final offsetting requirements for a given compliance period, the aeroplane operator shall report to DGCA, the cancellation of CORSIA Eligible Emissions Units carried out, by submitting to DGCA a copy of the duly verified Emissions Unit Cancellation Report for approval and a copy of the associated Verification Report for these emissions unit cancellation by a verification body.

II. The Emissions Unit Cancellation Report shall contain information such as Quantity of emissions units cancelled, Start of serial numbers, End of serial numbers, Date of cancellation, Eligible emissions unit programme, Unit type, Host country, Methodology, Demonstration of unit date eligibility, Programme-designated registry name, and shall be submitted to DGCA within the stipulated timeline. In this regard, a template shall be provided by DGCA to all aeroplane operators for developing Emissions Unit Cancellation Report.

III. Once the information pertaining to emissions Units for a given compliance period is submitted to ICAO, DGCA may publish the following information for a given compliance period:

a) Total final offsetting requirements over the compliance period for each aeroplane operators, and

b) Total quantity of emissions units cancelled over the compliance period by each aeroplane operator to reconcile the total final offsetting requirements, as reported by each aeroplane operator.

4. Verification of an Aeroplane Operator's Emissions Unit Cancellation Report

I. The aeroplane operator shall engage a DGCA empanelled verification body for the verification of its Emissions Unit Cancellation Report also. The aeroplane operator may choose to use the same verification body engaged for the verification of its Emissions Report earlier.

II. Details about a verification body and its relevant requirements are mentioned in Appendix III of this CAR.

III. The aeroplane operator shall provide access to the verification body for all relevant information on the cancellation of emissions units and the scope shall be covered in the agreement signed by both the parties.

IV. The aeroplane operator and the verification body shall both independently submit a copy of the Emissions Unit Cancellation Report and associated

Verification Report to DGCA within the stipulated timeline, following the verification of the Emissions Unit Cancellation Report by the verification body.

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APPENDIX III: VERIFICATION BODY AND NATIONAL ACCREDITATION BODY.

1. Verification Body and National Accreditation Body:

I. The aeroplane operator shall engage a DGCA empanelled verification body only for the verification of its Annual Emissions Report and Emissions Unit Cancellation Report.

II. The verification bodies to be empanelled with DGCA should be third party verification bodies accredited as per ISO/IEC 17029:2019 and ISO 14065:2020 for CORSIA scheme by National Accreditation Board for Certification Bodies (NABCB) under Quality Council of India.

III. A verification body shall conduct the verification in accordance with ISO 14064-3:2019, and the relevant requirements as contained in this CAR and also in ICAO Annex 16 Vol. IV.

IV. The National Accreditation Body shall be working in accordance with ISO/IEC 17011:2017.

V. The verification body shall also possess sufficient knowledge of aviation industry and associated Greenhouse Gas inventory to undertake such verification works.

VI. A verification body can approach DGCA for their further basic training in order to qualify as a verifier under CORSIA to undertake such work.

VII. DGCA can approach the verification body directly for seeking any additional information and clarification with regard to the verified data and reports of any aeroplane operator.

VIII. On DGCA's direction, the verification body may share their Verification Plan with DGCA for each aeroplane operator prior to starting their verification. Further, the verification body shall also share the main features of the verification process with DGCA after the verification is over in the format as prescribed by DGCA.

IX. For further requirement, Appendix 6 of ICAO Annex 16, Volume IV, Edition 02 shall be referred.

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ANNEXURE -I

1. **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.

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

3. **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.

4. **Aeroplane owner:** Person(s), organization(s) or enterprise(s) identified via Item 4 (Name of owner) and Item 5 (Address of owner) on the certificate of registration of an aeroplane.

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

6. **Conversion process:** A type of technology used to convert a feedstock into aviation alternative fuel.

7. **CORSIA eligible fuel:** A CORSIA sustainable aviation fuel or a CORSIA lower carbon aviation fuel, which an operator may use to reduce their offsetting requirements. CORSIA eligible fuel from fuel producers that are certified by an approved “Sustainable Certification Scheme” and meet the requirements of “CORSIA Eligibility Framework and Requirements for Sustainability Certification Schemes” as prescribed at ICAO CORSIA website.

8. **Feedstock:** A type of unprocessed raw material used for the production of aviation alternative fuel.

9. **Flight plan:** Specified information provided to air traffic services units, relative to an intended flight or portion of a flight of an aircraft.

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

11. **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).

12. **International flights:** An international flight is defined as the operation of an aircraft from take-off at an aerodrome of a contracting State or its territories, and landing at an aerodrome of another contracting State or its territories.

13. **National accreditation body:** A body authorised by a State which attests that a verification body is competent to provide specific verification services.

14. **New entrant:** Any aeroplane operator that commences an aviation activity falling within the scope of this CAR 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.

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

16. **Pathway:** A specific combination of feedstock and conversion process used for the production of aviation fuel.

17. **Reporting period:** A period which commences on 1st January and finishes on 31st December in a given year for which an aeroplane operator reports required information.

18. **Significant changes to EMP:** A significant change to EMP shall be one that would affect the status or eligibility of the aeroplane operator for an option under the emissions monitoring requirements or that would otherwise affect the decision by DGCA with regard to whether the aeroplane operator's approach to monitoring conforms with the requirements.

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

20. **Verification of report:** An independent, systematic and sufficiently documented evaluation process of an emissions report and, when required, a cancellation of eligible emissions units report.

21. **Verification body:** A legal entity that performs the verification of an Emissions Report and an Emissions Units Cancellation Report, as an accredited independent third party.

22. **Verification team:** A group of verifiers, or a single verifier that also qualifies as a team leader, belonging to a verification body conducting the verification of an Emissions Report and, when required, an Emissions Units Cancellation Report. The team can be supported by technical experts.

23. **Verification report:** A document by the verification body after completing the verification of an aeroplane operator's Emissions Report, containing the verification statement and required supporting information.

24. **Verification statement:** A written declaration by the verification body that provided assurance that the aeroplane operator's CO_2 emissions statement is stated within the defined level of assurance and materiality and is in accordance with the applicable verification criteria. The verification statement shall contain either "verified as satisfactory" or "verified as not satisfactory".

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ANNEXURE -II

ABBREVIATIONS AND UNITS

Following is the list of abbreviations and symbols units used in this CAR. These abbreviations and units have the meanings as ascribed to them below:

Abbreviations	Meaning
ACARS	Aircraft Communications Addressing and Reporting System
AOC	Air operator certificate
CERT	ICAO's CO_2 Estimation and Reporting Tool
CO_2	Carbon dioxide
CO_2e	Carbon dioxide equivalent
CORSIA	Carbon Offsetting and Reduction Scheme for International Aviation
GHG	Greenhouse gases
IAF	International Accreditation Forum
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
MRV	Monitoring, Reporting and Verification
MJ	Mega joule
RTK	Revenue Tonne Kilometres

Non-SI units:

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

Specific quantity	Unit	Symbol	Definitions (in terms of SI units)
Mass	Tonne	t	1 t = 10^3 kg
Time	Hour	h	1 h = 60 min = 3600 sec
volume	litre	L	1 L = 1 dm^3 = 10^{-3} m^3

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