:RI PERHUBUNGAN
JBLIK INDONESIA

KEPUTUSAN MENTERI PERHUBUNGAN

NOMOR : KM 22 TAHUN 2002

TENTANG

PERSYARATAN-PERSYARATAN SERTIFIKASI DAN OPERASI BAGI PERUSAHAAN ANGKUTAN UDARA YANG MELAKUKAN PENERBANGAN DALAM NEGERI, INTERNASIONAL DAN ANGKUTAN UDARA NIAGA TIDAK BERJADWAL

MENTERI PERHUBUNGAN,

Menimbang : a. bahwa dalam rangka memenuhi perkembangan teknologi dan persyaratan pengoperasian pesawat udara sesuai standar dan rekomendasi dari Organisasi Penerbangan Sipil Internasional serta guna menjamin keamanan dan keselamatan penerbangan, maka perlu dilakukan penyempurnaan terhadap ketentuan persyaratan-persyaratan sertifikasi dan operasi bagi perusahaan angkutan udara yang melakukan penerbangan dalam negeri, internasional dan angkutan udara niaga tidak berjadwal;

b. bahwa sehubungan dengan hal tersebut huruf a, maka perlu menetapkan Keputusan Menteri Perhubungan mengenai Persyaratan-persyaratan Sertifikasi dan Operasi Bagi Perusahaan Angkutan Udara Yang Melakukan Penerbangan Dalam Negeri, Internasional dan Angkutan Udara Niaga Tidak Berjadwal, dengan Keputusan Menteri Perhubungan;

Mengingat : 1. Undang-undang Nomor 15 Tahun 1992 tentang Penerbangan (Lembaran Negara Nomor 53 Tahun 1992, Tambahan Lembaran Negara Nomor 3481);

2. Peraturan Pemerintah Nomor 3 Tahun 2001 tentang Keamanan dan Keselamatan Penerbangan (Lembaran Negara Nomor 9 Tahun 2001, Tambahan Lembaran Negara Nomor 4075);

3. Keputusan Presiden Nomor 102 Tahun 2001 tentang Kedudukan, Tugas, Fungsi, Kewenangan, Susunan Organisasi dan Tata Kerja Departemen;

4. Keputusan Presiden Nomor 109 Tahun 2001 tentang Unit Organisasi dan Tugas Eselon I Departemen;

5. Keputusan Menteri Perhubungan Udara Nomor T.11/2/4-U tentang Peraturan-peraturan Keselamatan Penerbangan Sipil, sebagaimana telah diubah terakhir dengan Keputusan Menteri Perhubungan Nomor KM 6 Tahun 2001;

M E M U T U S K A N :

Menetapkan : KEPUTUSAN MENTERI PERHUBUNGAN TENTANG PERSYARATAN-PERSYARATAN SERTIFIKASI DAN OPERASI BAGI PERUSAHAAN ANGKUTAN UDARA YANG MELAKUKAN PENERBANGAN DALAM NEGERI, INTERNASIONAL DAN ANGKUTAN UDARA NIAGA TIDAK BERJADWAL.

Pasal 1

Ketentuan mengenai persyaratan-persyaratan sertifikasi dan operasi bagi perusahaan angkutan udara yang melakukan penerbangan dalam negeri, internasional dan angkutan udara niaga tidak berjadwal diatur sebagaimana tercantum dalam Lampiran Keputusan ini.

Pasal 2

Pengaturan lebih lanjut mengenai persyaratan-persyaratan sertifikasi dan operasi bagi perusahaan angkutan udara yang melakukan penerbangan dalam negeri, internasional dan angkutan udara niaga tidak berjadwal diatur oleh Direktur Jenderal Perhubungan Udara.

Pasal 3

Dengan berlakunya Keputusan ini, Keputusan Menteri Perhubungan Nomor :

a. KM 77 Tahun 2000 tentang Persyaratan-persyaratan Sertifikasi dan Operasi Bagi Perusahaan Angkutan Udara Yang Melakukan Penerbangan Dalam Negeri, Internasional dan Charter atau Cargo;

b. KM 18 Tahun 2001 tentang Perubahan Keputusan Menteri Perhubungan Nomor KM 77 Tahun 2000 tentang Persyaratan-persyaratan Sertifikasi dan Operasi Bagi Perusahaan Angkutan Udara Yang Melakukan Penerbangan Dalam Negeri, Internasional dan Charter atau Cargo;

dinyatakan tidak berlaku.

Pasal 4

Keputusan ini mulai berlaku pada tanggal ditetapkan.

Ditetapkan di : JAKARTA
Pada tanggal : 20 MARET 2002

MENTERI PERHUBUNGAN

ttd

AGUM GUMELAR, M.Sc.

SALINAN Keputusan ini disampaikan kepada :

1. Menteri Koordinator Bidang Perekonomian;
2. Menteri Negara Riset dan Teknologi;
3. Menteri Kehakiman dan HAM;
4. Menteri Perindustrian dan Perdagangan;
5. Sekretaris Negara;
6. Sekjen, Dirjen Perhubungan Udara dan Kabadan Litbang Perhubungan.

Salinan sesuai dengan aslinya
Kepala Biro Hukum dan KSLN,

KALALO NUGROHO
NIP. 120105102

21.1 Definitions and Abbreviations

a) Definitions

Adequate Alternate Aerodrome	:	Is one at which landing performance requirements can be met and has the necessary facilities and services.
Air Carrier/Air Operator Certificate Holder	:	Mean a person who undertakes directly by lease or other arrangements to engage in air transportation.
Air Transportation Service	:	The operation for remuneration, including positioning flights, of any aircraft, which is listed on the air carrier's Air operating certificate.
Aircraft	:	Any machines that can derive support in the atmosphere from the reaction of the air other than reactions of the air against the earth's surface.
Airplane or 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.
AOC	:	Air Operator Certificate. A certificate authorizing an operator to carry out specified commercial air transport operations.
Cabin Altitude	:	Means the pressure inside the cabin of an aircraft in flight, expressed in feet above Mean Sea Level (MSL)
Captain	:	A pilot qualified on an aircraft and responsible for the safe operation of that aircraft.
CC	:	Competency Check. Any required operational check performed on company personnel (other than flight crewmembers), by company supervisory personnel duly authorized to perform that check.
CCP	:	Company Check Pilot. An employee of an air carrier who is the holder of a delegation of authority issued by the Director, authorizing the conduct of certain types of flight checks.
Certificate	:	A document issued by, or on behalf of DGAC, which confirms a regulatory standard, as described in the document, has been met. A certificate does not convey any authority to act.
Co-authority dispatch	:	The shared authority between the PIC and flight operations officer in the formulation of an operational flight plan and flight release.
Contracting State	:	Any country or state, which is a signatory to the Convention of the International Civil Aviation Organisation, or any other country acceptable to the Director.

Crew member	:	A person assigned to official duty on board an aircraft.
DGCP	:	Designated Government Check Pilot. A person who is the holder of a delegation of authority issued by the Director, authorizing the conduct of certain types of flight checks.
Director or DGAC	:	The Director of the Directorate General of Air Communications, or any person authorized to act on his behalf.
ETOPS	:	Extended Twin-Engine Operations. Means twin engine operations conducted over specified routes that contain a point further than 60 minutes flying time from an adequate en-route alternate aerodrome at the aircraft's specified single engine cruise speed, as determined for standard atmospheric conditions, in still air.
Extended Over Water Operations	:	For the purposes of this Part, a flight is considered to be in extended over water operations, when it extends beyond the point where special equipment, procedures and/or passenger briefings are required for such operations.
First Officer (FO)	:	A pilot qualified on an aircraft to perform the duties of second in command. May also be taken to mean co-pilot.
Flag Air Carrier	:	An air carrier whose operations specifications authorize operations outside of Indonesia.
Flight	:	An aircraft is deemed to be in flight any time it is no longer in contact with the earth's surface as the result of its weight being supported by the aerodynamic principles and design features of that particular aircraft.
Flight Altitude	:	Means the altitude above mean sea level at which the aircraft is operated.
Flight Attendant	:	A crewmember who performs, in the interest of safety of passenger, duties assigned by the operator or the pilot in command of the aircraft, but who shall not act as flight crewmember.
Flight Crew Member	:	A crewmember assigned to duty in an aircraft as a pilot, flight engineer, second officer or navigator.
Flight Duty Time	:	The total elapsed period from the time a crewmember is required to report for duty, to the time that crewmember has completed all official duties with respect to a flight or series of flights and is released for an official crew rest.
Flight Operations Officer (FOO)	:	A person who is authorized by an air carrier to exercise operational control over a flight.
Flight Time	:	The total elapsed time from the moment the aircraft first moves under its own power for the purpose of take off, until the time it comes to rest at the end of the flight.

Flight Watch	:	The process by which a qualified flight operations officer provides flight following services to a flight, and provides any operational information as may be requested by the pilot in command or deemed necessary by the flight operations officer.
Government Check Pilot (GCP)	:	A DGAC inspector authorized to perform flight checks.
He	:	He or She (unless specified), taken in context with that section.
His	:	His or Hers (unless specified), taken in context with that section.
IMC	:	Instrument Meteorological Conditions
Large Aircraft	:	Any aircraft having a maximum certified take-off weight, (MCTOW) of greater than 5700 kg (12500 pounds).
Licence	:	A document issued by, or under a delegation of authority from the Director, which authorizes the holder to exercise certain privileges as specified in that license, subject to the conditions and limitations contained therein.
MEL	:	Minimum Equipment List
Net Take-off Path	:	Means the one-engine-inoperative flight path that starts at a height of 35 feet at the end of the take-off distance required and extends to a height of at least 1500 feet AGL, reduced at each point by a gradient of climb equal to 0.8 per cent for two-engine aeroplanes, 0.9 per cent for three-engine aeroplanes and 1.0 percent for four-engine aeroplanes.
Open Water	:	Means a water mass which does not have any landmasses within the maximum times or distances prescribed by a regulation.
Operational Control System (OCS)	:	Means an air carrier's system for the exercise of authority over the formulation, execution and amendment of an operational flight plan in respect of a flight or series of flights.
Passenger	:	Any person on board an aircraft during flight time, who is not acting as a crewmember.
Person	:	In respect of an air carrier, means any person who is an owner, or operator of an aircraft listed on that air carrier's operations specifications or, is otherwise acting as an employee or agent of that air carrier.
Pilot Flying (PF)	:	The flight crewmember who is manipulating the flight controls of an aircraft during flight time.
Pilot In Command (PIC)	:	A pilot assigned to act as the Captain of an aircraft.
Pilot Not Flying (PNF)		The pilot who is performing tasks during flight time, in support of the pilot flying.

Pilot Proficiency Check (PPC)	:	A flight check performed in whole or in part, in an aeroplane type simulator or an aircraft. Conducted by a GCP, CCP, or DGCP for the purpose of establishing the level of proficiency, of a flight crewmember.
Pilot Self-dispatch	:	Means a system where authority and responsibility for flight release, operation and flight following have been delegated solely to the PIC.
Remote Area	:	Means an area of land considered hostile to survival, which lies beyond a specified radius from any known civilization, development or surface conveyance, through which refuge could reasonably be sought. Such radii is equal to 25 nautical miles in the case of mountainous or jungle areas, 50 nautical miles in the case of unoccupied land mass surrounded by water and in all other areas, 100 nautical miles. The Director may designate other areas as remote based upon unique consideration.
Required Day Off	:	A period of time consisting of 24 consecutive hours, commencing at 0000 local time, in which a pilot, flight attendant or flight operations officer are free from all duties or contact by the company. A required day off is considered to be taken at a person's residence and is exclusive of any travel time between that person's residence, and the place where such person reports for, or is released from duty.
Rest Period	:	The period of time during which a crewmember is released form all official duty or contact by the company. This period must exclude all time spent commuting by the most direct route, between the company designated rest facility and assigned duty station and, a specified period of prone rest with at least one additional hour provided for physiological needs.
Seating Capacity	:	The maximum number of passenger seats authorized by, the type certificate, type approval, or other equivalent document.
Second in Command (SIC)	:	A pilot assigned to act as a first officer or co-pilot of an aircraft.
Second Officer (SO)	:	A pilot who is the holder of a commercial or higher pilot license and is endorsed on an aircraft type, as competent on the flight engineers panel and may act as a flight crewmember with respect to the flight engineer duties.
Supplemental Air Carrier	:	An air carrier whose operations specifications authorize charter or all cargo operations.

Threshold Time : Is the flight time from as adequate en-route alternate aerodrome beyond which time operations by aeroplanes with two turbine power units must be authorized by DGAC. This threshold time should be 60 minutes.

(b) Abbreviation

CCP/FE/N	:	Company Check Pilot/Flight Engineer/Navigator
CI	:	Competency Instructor
DGCP/FE/N	:	Designated Government Check Pilot/Flight Engineer/Navigator
DGAC	:	Directorate General of Air Communications
DGFAS	:	Designated Government Flight Attendant Supervisor
DGFOOS	:	Designated Government Flight Operations Officer Supervisor
FAS	:	Flight Attendant Supervisor
FI	:	Flight Instructor
FOOS	:	Flight Operations Officer Supervisor
GCP/FE/N	:	Government Check Pilot/Flight Engineer/Navigator
GFAS	:	Government Flight Attendant Supervisor
GFOOS	:	Government Flight Operations Officer Supervisor
GI	:	Ground Instructor
RI	:	Route Instructor
SI	:	Simulator Instructor

121.3 Applicability

This part prescribes the rules governing:

(a) The domestic, flag and supplemental certification and operations of each person who holds or is required to hold an air Carrier Operating Certificate under this part who is utilizing airplanes having a passenger seating configuration of more than 30 seats, excluding any required crewmember seat, or a payload capacity of more than 3,409 kilograms (7,500 pounds)

(b) Each person employed or used by a certificate holder conducting operations under this part including maintenance, preventive maintenance, and alteration of aircraft.

(c) Each person who is on board an aircraft being operated under this part.

(d) The rules in this part are applicable to all air carriers certified under this Part.

121.4 Certification Requirements: General

(a) No person may engage in scheduled air transportation within Indonesia without, or in violation of an air carrier operating certificate and appropriate operations specifications issued under this part. An air carrier whose operations specifications authorize operations within Indonesia is hereafter referred to as a "domestic air carrier".

(b) No person may engage in scheduled air transportation outside of Indonesia without, or in violation of an air carrier operating certificate and appropriate operations specifications issued under this part. An air carrier whose operations specifications authorize operations outside of Indonesia is hereafter referred to as a "flag air carrier".

(c) No person may engage in charter or all-cargo operations without, or in violation of an air carrier operating certificate and appropriate operations specifications issued under this part. An air carrier whose operations specifications authorize charter or all-cargo operations is hereafter referred to as a "supplemental air carrier".

(d) A domestic air carrier may, in the case of segments of routes extending outside of Indonesia be authorized to conduct operations over those route segments under the domestic air carrier certification and operation rules. A domestic air carrier whose route structure has expanded to include operations outside of Indonesia must conduct those routes under the flag air carrier certification and operation rules.

(e) The Director may authorize the air carriers described in paragraphs (a) and (b) of this section to conduct charter and/or all-cargo operation with the appropriate revisions to their existing operations specifications.

(f) The rules in this part that do not specifically refer to flag or domestic or supplemental air carriers are applicable to flag and domestic and supplemental air carriers.

(g) No holder of an air operator certificate may operate or list on any required listing of its aircraft any aircraft listed on any operation specifications issued to another air operator under this part.

121.5 [Reserved]

121.6 Leasing of Aircraft

(a) Prior to operating an air transportation service with a leased aircraft, an air carrier shall provide to the Director, copy of the lease agreement, or a written memorandum outlining the terms of such agreement. Where any air carrier whether foreign or domestic, agrees to provide an aircraft to another person certified under this part, the agreement must state which AOC holder and which AMO as applicable. is proposed to be responsible for providing:

(1) applicable crewmembers,
(2) operational control, and
(3) the maintenance and servicing of that aircraft

(b) Upon receiving a copy of an agreement, or a written memorandum of the terms thereof, the Director determines which party to the agreement is conducting the operation and issues an amendment to the certificate holder's operations specifications containing the following:

(1) The names of the parties to the agreement and the duration thereof
(2) The nationality and registration numbers marks of each aircraft involved in the agreement
(3) The type of operation (e.g. scheduled, passenger, etc)
(4) The areas of operation
(5) The regulation of the CASRs applicable to the operation

(c) In making a determination under Paragraph (b) of this section, the Director considers the responsibility under the agreement for the following:

(1) Crewmembers and training
(2) Airworthiness and performance of maintenance
(3) Dispatch
(4) Servicing the aircraft
(5) Scheduling
(6) Any other factor the Director considers relevant

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121.21 Applicability

This subpart prescribes certification rules for all air carriers except where noted.

121.23 [Reserved]

121.25 Contents of Operations Specifications

Each air carrier operating certificate contains the following:
(a) The kinds of operations authorized;
(b) The types and registration marks of airplanes authorized for use;
(c) Enroute authorizations and limitations;
(d) Airport authorizations;
(e) Airport limitations;
(f) Time limitations, or standards for determining time limitations, for overhauls, inspections checks of airframes, engines propellers, appliances and emergency equipment;
(g) Procedures for control of weight and balance of airplanes;
(h) Interline equipment interchange requirements, if relevant;
(i) Any other item that the Director determines is necessary to cover a particular situation.

121.26 Application for Air Carrier Operator Certificates

Each application for an air carrier operator certificate shall be made in the form and manner and contain information prescribed by the Director. Each applicant must submit his application at least 60 days before the date of intended operation.

121.27 Issue of an Air Operator Certificate

(a) An applicant under this subpart is issued an operating certificate if the Director after investigation, a positive finding is made regarding the applicants financial, economic and legal matters in accordance with Subsection (d)(e) and (f) of this section;
(b) The Director after investigation finds that the applicant is properly and adequately equipped and able to conduct a safe operation in accordance with this part and operation specifications issued under this part;
(c) In the case of operations conducted under a temporary authorization issued by the DGAC, the Director issues operations specifications prescribing appropriate requirements that deviate from the requirements of this part whenever, after investigation, he finds that general standards of safety for such an operation require or allow a deviation from such a requirement for a particular operation or class of

operations for which an application for an air carrier operating certificate has been made, as laid down in Subsection 121.27(b)(e)(f) of this section; and.

(d) Each applicant for the original issue of an air operator certificate who intends to conduct operations under this part must submit the following financial information:

(1) A balance sheet that shows assets, liabilities, and net worth, as of a date not more than 60 days before the date of application.

(2) An itemization of liabilities more than 60 days past due on the balance sheet date, if any, showing each creditor's name and address, a description of the liability, and the amount and due date of the liability.

(3) An itemization of claims in litigation, if any, against the applicant as of the date of application showing each claimant's name and address and a description and the amount of the claim.

(4) A detailed projection of the proposed operation covering 6 complete months after the month in which the certificate is expected to be issued including–

(i) Estimated amount and source of both operating and nonoperating revenue, including identification of its existing and anticipated income producing contracts and estimated revenue per mile or hour of operation by aircraft type;

(ii) Estimated amount of operating and nonoperating expenses by expense objective classification; and

(iii) Estimated net profit or loss for the period.

(5) An estimate of the cash that will be needed for the proposed operations during the first 6 months after the month in which the certificate is expected to be issued, including -

(i) Acquisition of property and equipment (explain);

(ii) Retirement of debt (explain);

(iii) Additional working capital (explain);

(iv) Operating losses other than depreciation and amortization (explain); and

(v) Other (explain).

(6) An estimate of the cash that will be available during the first 6 months after the month in which the certificate is expected to be issued, from -

(i) Sale of property or flight equipment (explain);

(ii) New debt (explain);

(iii) New equity (explain);

(iv) Working capital reduction (explain);

(v) Operations (profits) (explain);

(vi) Depreciation and amortization (explain); and

(vii) Other (explain).

(7) A schedule of insurance coverage in effect on the balance sheet date showing insurance companies; policy numbers; types, amounts, and period of coverage; and special conditions, exclusions, and limitations.

(8) Any other financial information that the DGAC requires to enable him or her to determine that the applicant has sufficient financial resources to conduct his or her operations with the degree of safety required in the public interest.

(e) Each holder of an air operator certificate shall submit a financial report for the first 6 months of each fiscal year and another financial report for each complete fiscal year.

(f) Each financial report containing financial information required by paragraph (e) of this section must be based on accounts prepared and maintained on an accrual basis in accordance with generally accepted accounting principles applied on a

consistent basis, and must contain the name and address of the applicant's public accounting firm, if any. Information submitted must be signed by an officer, owner, or partner of the applicant or certificate holder.

121.29 Duration of an Air Operator Certificate

(a) Every Air Operator Certificate shall be considered valid and in force unless:
  (1) The holder voluntarily surrenders it to the Director.
  (2) The Director suspends or revokes the Air Operator Certificate either in whole or in part.
  (3) The air carrier knowingly violates a provision of its Air Operator Certificate or operation specifications.

(b) Where an Air Operator Certificate has been suspended or revoked, it shall be returned to the Director within seven days of receiving notice of suspension or revocation.

121.30-121.58 [Reserved]

121.59 Management Personnel Required

(a) Each applicant for a certificate under this subpart must show that it has sufficient qualified management personnel to provide adequate direction in all operational matters and ensure an acceptable level of safety is being maintained. Such personnel must be employed on a full time basis in at least the following or equivalent position:
  (1) Managing or President Director
  (2) Director of Safety (company aviation safety officer)
  (3) Director of Operation
  (4) Director of Maintenance
  (5) Chief Pilot
  (6) Chief inspector
  (7) Chief Flight attendant (Director of cabin safety) (if applicable)
  (8) Other supervisory positions required.

(b) Upon application by the air carrier the Director may approve different positions or number of positions than those listed in paragraph (a) of this section for a particular operation if the air carrier shows that it can perform the operation with the highest degree of safety under the direction of fewer or different categories of management personnel due to:
  (1) The kind of operation involved;
  (2) The number and type of aircraft used; and
  (3) The area of operations.

  The title and number of positions so approved are set forth in the operations specifications.

(c) Each air carrier shall:
  (1) Set forth duties, responsibilities, and authority, of the personnel required by this section, in the general policy section of the air carrier manual;

(2) Submit the names and addresses of the persons assigned to those positions; and

(3) Within at least 10 days, notify the DGAC any change made in the assignment of persons to the listed positions.

121.61 Minimum Qualifications of Management Personnel

(a) No person may serve as a managing or president director where the DGAC has reason to believe, given the background of such person, that he or she is likely to present a threat to the safe and proper operations of the air carrier.

(b) No person may serve as a Director of Safety unless his experience, qualifications and background are acceptable to the Director, and that person;

(1) has a sound knowledge of the air carrier's Air Operator certificate, operations specifications, and the company operations and technical manuals,

(2) has received specialized training in safety related courses which in the opinion of the Director are sufficient to prepare him for the duties and responsibilities of a safety director. In making his determination the Director will consider the scope and size or the complexity of the air carrier's operations.

(c) No person may serve as Director of Operations unless he;

(1) knows the contents of the air carrier's company operations manual and operations specifications, and the provisions of this part necessary to the proper performance of his duties and;

(2) holds, or has held, an airline transport pilot licence (or a commercial pilot licence if none of the aircraft utilised by the air carrier require an airline transport licence as specified by this part), and

(3) has had at least three years experience as pilot-in-command of similar types of aircraft with which the operations are to be conducted; or,

(4) has had at least three years experience as Director of Operations or a position of comparable responsibility with an air carrier using similar types of aircraft.

(d) No person may serve as Director of Maintenance unless he;

(1) Holds an appropriate AME licence, or equivalent qualifications acceptable to the Director,

(2) Has had at least five years of experience in the maintenance of similar types of Aircraft with which the operations are to be conducted, one year of which must have been in a supervisory capacity, and

(3) knows the maintenance parts of the air carrier's company operations manual and operations specifications and the applicable maintenance provisions of this part.

(e) No person may serve as Chief Pilot unless that person;

(1) holds a current airline transport pilot licence with appropriate ratings, or a commercial pilot licence, with appropriate ratings of the aircraft utilized by the air carrier.

(2) has accumulated not less than 1000 hours as pilot-in-command on similar types of aircraft or, within the preceding five years, has acted as pilot-in-command for at least three years and accumulated not less than 500 hours as pilot-in-command on similar types of aircraft with an air carrier; and

(3) knows the contents of the air carrier's manual and operations specifications, and the provisions of this part necessary to the proper performance of his duties.

(f) No person may serve as Chief Inspector unless he;
   (1) Holds an appropriate AME license which has been valid for at least five years;
   (2) has had at least three years of diversified maintenance experience on similar types of aircraft with which the operations are to be conducted with an Air Operator or A.M.O., one year of which must have been as a maintenance inspector; and
   (3) knows the maintenance parts of the air carrier's manual and operations specifications, and the applicable maintenance provisions of this part.

(g) No person may serve as Chief Flight Attendant or Director of Cabin Safety unless that person;
   (1) holds a flight attendant licence, endorsed for the most sophisticated type of aircraft operated by the company.
   (2) has had at least five years experience as a flight attendant on similar types of aircraft and similar types of operations of which at least one year was in a supervisory capacity, and
   (3) has a working knowledge of the flight attendant manual, flight attendant training manual, and relevant portions of the CASRs and company operations manual.

(h) No air carrier may assign a person to act in a position of management over operational matters or personnel, unless;
   (1) an official management position has been created in accordance with this Section and is published in the organisation chart.
   (2) a list of minimum qualifications the incumbent must posses is published in the COM, and
   (3) the information required by Section 121.59 is published in the COM.

(i) Where an applicant files for a deviation to any qualification listed in this section, the Director may after consideration, decide to give an exemption to certain qualifications where,
   (1) The person's experience, qualifications and background are acceptable to the Director,
   (2) the scope and size of the proposed operations is such that a lower level of qualifications would be acceptable to achieve a satisfactory level of safety, and
   (3) at the discretion of the Director, the manager nominee agrees to undergo an examination to test his suitability for the position.

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SUBPART C - FLIGHT SAFETY PROGRAM

121.63 Applicability

This subpart prescribes the standards for each air carrier authorized to operate under this part, required to maintain a flight safety program.

121.65 Flight Safety Program

a) An air carrier shall develop and maintain on a continuing basis, a Flight Safety Program (FSP), that is appropriate to the scope and size of it's operation and has a high capability to detect, analyze and mitigate any risks which may pose a threat to the safety of that air carriers operations.

b) An air carrier shall nominate to the DGAC for approval, a Director of Safety or equivalent position, who meets the qualifications as laid down in Section 121.61 (b) of this Part.

c) An air carrier shall publish in it's COM the details of it's flight safety program which, except as authorized by the Director, must include at least the following program elements;

(1) Air Carrier's Management Plan,
(2) Qualifications of the Flight Safety Person,
(3) Responsibilities of the Flight Safety Person,
(4) Training for the Flight Safety Person,
(5) Incident Management,
(6) Flight Safety Committee,
(7) Emergency Response Planning,
(8) Communication and Safety Education

d) Where the details of an air carrier's flight safety program deal with matters of security, any sensitive information which could jeopardize the security or safety of an aircraft shall not be published in the COM. In such cases, information which is considered classified for security purposes, will be protected by the air carrier in a manner that is acceptable to the Director.

e) The Director may perform special safety audits on an air carrier's safety department to assess the effectiveness of its flight safety program.

f) The flight safety program referred to in this section may be published in the air carrier's COM or as a separate manual forming part of the Company Operations Manual, but must meet the standards laid down in Advisory Circular entitled, "Air Carrier Flight Safety Program".

g) Appendix B - DESCRIPTION OF ELEMENTS FOR A FLIGHT SAFETY PROGRAM has been published for the purpose of giving guidance for the development of the program.

121.67 [Reserved]

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121.71. Applicability

This subpart prescribes rules governing all certificate holder under this part.

121.73. Availability of Certificate and Operations Specifications

Each certificate holder shall make its operating certificate and operations available for inspections by the Director at its principal operations office.

121.75. Contents of the Operations Specifications

(a) Each Operations Specification is an attachment to the Air Operator Certifi3cate and addresses at least the following standard operational and maintenance areas;
   (1) the business address and telephone number of the air carrier;
   (2) the specific location of the air carrier's home base,
   (3) the organisation of flight operations including approved incumbents,
   (4) the maintenance and engineering organisation including the approved incumbents,
   (5) the operations and technical manual approval dates,
   (6) the categories of air transportation services authorized,
   (7) the regions of flight operations,
   (8) the flight rules applicable to the service,
   (9) the forms of air transportation service authorized,
   (10) the categories of aircraft approved,
   (11) the maintenance specifications of each aircraft,
   (12) the list of aircraft; and
   (13) any other item the Director determines is relevant to the issue of the Air Operator certificate.

(b) [Reserved]

121.77. Amendment of Certificate

(a) An operating certificate issued under this part may be amended upon application by the holder, if the DGAC determines that safety in air transportation and the public interest allows the amendment.

(b) An applicant for an amendment to an operating certificate must file its application with the DGAC at least 30 days before the proposed effective date of that amendment, unless a shorter filing period is allowed.

(c) At any time within 30 days after refusal of the DGAC to approve an application for amendment, the holder may petition the Director to reconsider the refusal.

121.79. Amendment of Operations Specifications

(a) The DGAC may amend any operations specifications issued under this part:
   (1) Upon application by the holder, if the DGAC determines that safety in air transportation and the public interest allows the amendment; or
   (2) If the DGAC determines that safety in air transportation and the public interest requires the amendment.

(b) In the case of an amendment under paragraph (a)(2) of this section, the DGAC notifies the holder, in writing, of the proposed amendment, fixing a reasonable period (but not less than seven days) within which the holder may submit written information, views, and arguments on the amendment. After considering all relevant material presented, the DGAC notifies the holder of any amendment adopted, or rescinds the notice. The amendment becomes effective not less than 30 days after the holder receives notice of it, unless the holder petitions the Director for amendments pertaining to flight operations to reconsider the amendment, in which case its effective date is stayed pending a decision by the Director. If the DGAC finds that there is and emergency requiring immediate action with respect to safety in air transportation, that makes the procedure in this paragraph impracticable or contrary to the public interest, it may issue an amendment, effective without stay, on the date the holder receives notice of it. In such a case, the DGAC incorporates the finding, and a brief statement of the reasons for it, in the notice of the amended operations specifications to be adopted.

(c) An applicant must file his application for an amendment of operations specifications with the DGAC at least 30 days before the date that it proposes for the amendment to become effective, unless a shorter filing period is allowed by that office.

(d) Within 30 days after receiving from the DGAC a notice of refusal to approve the application for amendment, the applicant may petition the Director for amendments pertaining to flight operations to reconsider the refusal to amend.

121.81. Inspection Authority

Each certificate holder shall allow the Director, at any time or place, to make any inspections or tests to determine its compliance with the CASRs, its operating certificate and operations specifications, or its eligibility to continue to hold its certificate.

121.83. Change of Address

Each certificate holder shall notify the DGAC in writing, at least 30 days in advance, of any change in the address of its principal business office, its principal operations base, or its principal maintenance base.

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121.91 Applicability

This subpart prescribes rules for obtaining approval of routes by all air carriers except where noted.

121.93 Route Requirements: General

(a) Each air carrier seeking a route approval must show:
   (1) That it is able to conduct satisfactorily scheduled operations between each airport over that route or route segment; and
   (2) That the facilities and services required by Section 121.97 through 121.107 are available and adequate for the proposed operation.

   The Director approves a route outside of controlled airspace if he determines that traffic density is such that and adequate level of safety can be assured.

(b) Paragraph (a) of this section does not require actual flight over a route or route segment if the air carrier shows that the flight is not essential to safety, considering the availability and adequacy of airports, lighting, maintenance, communication, navigation, fuelling, ground, and airplane radio facilities, and the ability of the personnel to be used in the proposed operation.

121.95 Route Width

(a) Approved routes and route segments over Indonesian airways or foreign airways (and advisory routes in the case of flag air carriers) have a width equal to the designated width of those airways or routes. Whenever the Director finds it necessary to determine the width of other approved routes, he considers the following:
   (1) Terrain clearance
   (2) Minimum enroute altitudes
   (3) Ground and airborne navigation aids
   (4) Air traffic density
   (5) ATC procedures

(b) Any route widths of other approved routes determined by the Director are specified in the air carrier's operations specifications.

121.97 Airports: Required Data

(a) Each domestic and flag air carrier must show that each route it submits for approval has enough airports that are properly equipped and adequate for the proposed operation, considering such items as size, surface, obstructions, facilities, public protection, lighting, navigational and communications aids, and ATC.

(b) Each domestic and flag air carrier must show that it has an approved system for obtaining, maintaining, and distributing to appropriate personnel current

aeronautical data for each airport it uses to ensure a safe operation at that airport. The aeronautical data must include the following:

(1) Airports
  (i) Facilities
  (ii) Public protection
  (iii) Navigational and communications aids
  (iv) Construction affecting takeoff, landing, or ground operations
  (v) Air traffic facilities

(2) Runways, clearways and stopways
  (i) Dimensions
  (ii) Surface
  (iii) Marking and lighting systems
  (iv) Elevation and gradient

(3) Displaced thresholds
  (i) Location
  (ii) Dimensions
  (iii) Takeoff or landing or both

(4) Obstacles
  (i) Those affecting takeoff and landing performance computations in accordance with Subpart I of this part.
  (ii) Controlling obstacles.

(5) Instrument flight procedures
  (i) Departure procedure
  (ii) Approach procedure
  (iii) Missed approach procedure

(6) Special information
  (i) Runway visual range measurement equipment
  (ii) Prevailing winds under low visibility conditions.

(c) If the DGAC finds that revisions are necessary for the continued adequacy of the certificate holder's system for collection, dissemination, and usage of aeronautical data that has been granted approval, the certificate holder shall, after notification by the DGAC, make those revisions in the system. Within 30 days after the certificate holder receives such notice, the certificate holder may file a petition to reconsider the notice with the Director. This filing of a petition to reconsider stays the notice pending a decision by the Director. However, if the DGAC finds that there is an emergency that requires immediate action in the interest of safety in air transportation, the Director may, upon statement of the reasons, require a change effective without stay.

121.99 Communication Facilities: Flag, Domestic and Supplemental Air Carriers

Each air carrier must show that a two-way air/ground radio communication system is available that will ensure reliable and rapid communications, under normal operating conditions over the entire route (either direct or via approved point to point circuits) between each airplane, and the appropriate air traffic control unit. For all air carrier operations within Indonesia, the communications systems between each airplane and the dispatch office must be independent of any system operated by the Government of Indonesia.

121.71. Applicability

This subpart prescribes rules governing all certificate holder under this part.

121.73. Availability of Certificate and Operations Specifications

Each certificate holder shall make its operating certificate and operations available for inspections by the Director at its principal operations office.

121.75. Contents of the Operations Specifications

(a) Each Operations Specification is an attachment to the Air Operator Certifi3cate and addresses at least the following standard operational and maintenance areas;
   (1) the business address and telephone number of the air carrier;
   (2) the specific location of the air carrier's home base,
   (3) the organisation of flight operations including approved incumbents,
   (4) the maintenance and engineering organisation including the approved incumbents,
   (5) the operations and technical manual approval dates,
   (6) the categories of air transportation services authorized,
   (7) the regions of flight operations,
   (8) the flight rules applicable to the service,
   (9) the forms of air transportation service authorized,
   (10) the categories of aircraft approved,
   (11) the maintenance specifications of each aircraft,
   (12) the list of aircraft; and
   (13) any other item the Director determines is relevant to the issue of the Air Operator certificate.

(b) [Reserved]

121.77. Amendment of Certificate

(a) An operating certificate issued under this part may be amended upon application by the holder, if the DGAC determines that safety in air transportation and the public interest allows the amendment.

(b) An applicant for an amendment to an operating certificate must file its application with the DGAC at least 30 days before the proposed effective date of that amendment, unless a shorter filing period is allowed.

(c) At any time within 30 days after refusal of the DGAC to approve an application for amendment, the holder may petition the Director to reconsider the refusal.

121.79. Amendment of Operations Specifications

(a) The DGAC may amend any operations specifications issued under this part:
   (1) Upon application by the holder, if the DGAC determines that safety in air transportation and the public interest allows the amendment; or
   (2) If the DGAC determines that safety in air transportation and the public interest requires the amendment.

(b) In the case of an amendment under paragraph (a)(2) of this section, the DGAC notifies the holder, in writing, of the proposed amendment, fixing a reasonable period (but not less than seven days) within which the holder may submit written information, views, and arguments on the amendment. After considering all relevant material presented, the DGAC notifies the holder of any amendment adopted, or rescinds the notice. The amendment becomes effective not less than 30 days after the holder receives notice of it, unless the holder petitions the Director for amendments pertaining to flight operations to reconsider the amendment, in which case its effective date is stayed pending a decision by the Director. If the DGAC finds that there is and emergency requiring immediate action with respect to safety in air transportation, that makes the procedure in this paragraph impracticable or contrary to the public interest, it may issue an amendment, effective without stay, on the date the holder receives notice of it. In such a case, the DGAC incorporates the finding, and a brief statement of the reasons for it, in the notice of the amended operations specifications to be adopted.

(c) An applicant must file his application for an amendment of operations specifications with the DGAC at least 30 days before the date that it proposes for the amendment to become effective, unless a shorter filing period is allowed by that office.

(d) Within 30 days after receiving from the DGAC a notice of refusal to approve the application for amendment, the applicant may petition the Director for amendments pertaining to flight operations to reconsider the refusal to amend.

121.81. Inspection Authority

Each certificate holder shall allow the Director, at any time or place, to make any inspections or tests to determine its compliance with the CASRs, its operating certificate and operations specifications, or its eligibility to continue to hold its certificate.

121.83. Change of Address

Each certificate holder shall notify the DGAC in writing, at least 30 days in advance, of any change in the address of its principal business office, its principal operations base, or its principal maintenance base.

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121.91 Applicability

This subpart prescribes rules for obtaining approval of routes by all air carriers except where noted.

121.93 Route Requirements: General

(a) Each air carrier seeking a route approval must show:
   (1) That it is able to conduct satisfactorily scheduled operations between each airport over that route or route segment; and
   (2) That the facilities and services required by Section 121.97 through 121.107 are available and adequate for the proposed operation.

   The Director approves a route outside of controlled airspace if he determines that traffic density is such that and adequate level of safety can be assured.

(b) Paragraph (a) of this section does not require actual flight over a route or route segment if the air carrier shows that the flight is not essential to safety, considering the availability and adequacy of airports, lighting, maintenance, communication, navigation, fuelling, ground, and airplane radio facilities, and the ability of the personnel to be used in the proposed operation.

121.95 Route Width

(a) Approved routes and route segments over Indonesian airways or foreign airways (and advisory routes in the case of flag air carriers) have a width equal to the designated width of those airways or routes. Whenever the Director finds it necessary to determine the width of other approved routes, he considers the following:
   (1) Terrain clearance
   (2) Minimum enroute altitudes
   (3) Ground and airborne navigation aids
   (4) Air traffic density
   (5) ATC procedures

(b) Any route widths of other approved routes determined by the Director are specified in the air carrier's operations specifications.

121.97 Airports: Required Data

(a) Each domestic and flag air carrier must show that each route it submits for approval has enough airports that are properly equipped and adequate for the proposed operation, considering such items as size, surface, obstructions, facilities, public protection, lighting, navigational and communications aids, and ATC.

(b) Each domestic and flag air carrier must show that it has an approved system for obtaining, maintaining, and distributing to appropriate personnel current

aeronautical data for each airport it uses to ensure a safe operation at that airport. The aeronautical data must include the following:

(1) Airports
  (i) Facilities
  (ii) Public protection
  (iii) Navigational and communications aids
  (iv) Construction affecting takeoff, landing, or ground operations
  (v) Air traffic facilities

(2) Runways, clearways and stopways
  (i) Dimensions
  (ii) Surface
  (iii) Marking and lighting systems
  (iv) Elevation and gradient

(3) Displaced thresholds
  (i) Location
  (ii) Dimensions
  (iii) Takeoff or landing or both

(4) Obstacles
  (i) Those affecting takeoff and landing performance computations in accordance with Subpart I of this part.
  (ii) Controlling obstacles.

(5) Instrument flight procedures
  (i) Departure procedure
  (ii) Approach procedure
  (iii) Missed approach procedure

(6) Special information
  (i) Runway visual range measurement equipment
  (ii) Prevailing winds under low visibility conditions.

(c) If the DGAC finds that revisions are necessary for the continued adequacy of the certificate holder's system for collection, dissemination, and usage of aeronautical data that has been granted approval, the certificate holder shall, after notification by the DGAC, make those revisions in the system. Within 30 days after the certificate holder receives such notice, the certificate holder may file a petition to reconsider the notice with the Director. This filing of a petition to reconsider stays the notice pending a decision by the Director. However, if the DGAC finds that there is an emergency that requires immediate action in the interest of safety in air transportation, the Director may, upon statement of the reasons, require a change effective without stay.

121.99 Communication Facilities: Flag, Domestic and Supplemental Air Carriers

Each air carrier must show that a two-way air/ground radio communication system is available that will ensure reliable and rapid communications, under normal operating conditions over the entire route (either direct or via approved point to point circuits) between each airplane, and the appropriate air traffic control unit. For all air carrier operations within Indonesia, the communications systems between each airplane and the dispatch office must be independent of any system operated by the Government of Indonesia.

121.101 Weather Reporting Facilities

(a) No air carrier may use any weather report to control flight unless it was prepared and released by the Badan Meteorologi dan Geofisika (BMG) or a source approved by the BMG. For operations outside Indonesia where BMG reports are not available, the air carrier must show that its weather reports are prepared by a source found satisfactory by the Director.

(b) Each air carrier that uses forecasts to control flight movements shall use forecasts prepared from weather reports specified in Paragraph (a) of this section.

121.103 Enroute Navigational Facilities

(a) Except as provided in paragraph (b) of this section, each air carrier must show, for each proposed route, that non-visual ground aids are:
   (1) Available over the route for navigating aircraft within the degree of accuracy required for ATC; and
   (2) Located to allow navigation to any airport, including alternate(s), within the degree of accuracy necessary for the operation involved.

   Except for those aids required for routes to alternate airports, non-visual ground aids required for approval of routes outside of controlled airspace are listed in the air carrier's operation specifications.

(b) Non-visual ground aids are not required for-
   (1) Day VFR operations that the air carrier shows can be conducted safely by pilotage because of the characteristics of the terrain; and
   (2) Operations on route segments, where the use of celestial or other specialized means of navigation is approved by the Director.

121.105 Servicing and Maintenance Facilities

Each air carrier must show that competent personnel and adequate facilities and equipment (including spare parts, supplies, and materials) are available at such points along the air carrier's route as are necessary for the proper servicing, maintenance, and preventive maintenance of airplanes and auxiliary equipment.

121.107 Dispatch Centers, Flag and Domestic Air Carriers

Each domestic and flag air carrier must show that it has enough dispatch centers, adequate for the operations to be conducted, that are located at points necessary to ensure proper operational control of each flight.

121.125 Flight Following System: Flag, Domestic and Supplemental Air Carriers

a) Each air carrier must show that it has:
   (1) An approved flight following system established in accordance with Subpart U of this part and adequate for the proper monitoring of each flight, considering the operations to be conducted; and

(2) Flight following centers located at those points necessary:
   (i) To ensure the proper monitoring of the progress of each flight with respect to its departure at the point of origin and arrival at its destination, including intermediate stops and diversions therefrom, and maintenance or mechanical delays encountered at those points or stops; and
   (ii) To ensure that the pilot in command is provided with all information necessary for the safety of the flight.

(b) The air carrier may arrange to have flight following facilities provided by persons other than its employees, but in such a case the air carrier or commercial operator continues to be primarily responsible for operational control of each flight.

(c) A flight following system need not provide for in-flight monitoring by a flight following center.

(d) An air carrier's operations specifications must specify the flight following system it is authorized to use and the location of the centers.

121.127 Flight Following System Requirements: Flag, Domestic and Supplemental Air Carriers

(a) Each air carrier using a flight following system must show that:
   (1) The system has adequate facilities and personnel to provide the information necessary for the initiation and safe conduct of each flight to:
      (i) The flight crew of each aircraft; and
      (ii) The persons designated by the air carrier to perform the function of operational control of the aircraft; and
   (2) The system has a means of communication by private or available public facilities (such as telephone, telegraph, or radio) to monitor the progress of each flight with respect to its departure at the point of origin and arrival at its destination, including intermediate stops and diversions therefrom, and maintenance or mechanical delays encountered at those points or stops.

(b) The air carrier must show that the personnel specified in Paragraph (a) of this section, and those it designates to perform the function of operational control of the aircraft, are able to perform their required duties.

This manual should include:

(A) Incident Reporting Systems

(B) Confidential Reporting Systems

(C) Information on general accident prevention activities

(ii) This manual should also detail:

(A) The method of investigating incidents

(B) The policy for representation at official accident investigations.

(iii) This manual should describe the Air Operator Certificate holders participation in airport emergency planning exercises.

(c) Each certificate holder shall maintain at least one complete copy of the manual at its principal base of operations.

121.137. Distribution and Availability

(a) Each certificate holder shall furnish copies of the manual required by Section 121.133 (and the changes and additions to that manual) or appropriate parts of the manual to:

(1) Its appropriate ground operations and maintenance personnel:

(2) Crewmembers; and

(3) Representatives of the Director assigned to the certificate holder.

(b) Each person to whom a manual or appropriate parts of it are furnished under Paragraph (a) of this section shall keep it up-to-date with the changes and additions furnished to that person and shall have the manual or appropriate parts of it accessible when performing assigned duties.

(c) For the purpose of complying with Paragraph (a) of this section, a certificate holder may furnish the persons listed therein the maintenance part of the manual in microfilm form if it also furnishes and maintains a reading device that provides a legible facsimile image of the microfilmed maintenance information and instructions.

121.139. Requirement for Manual aboard Aircraft: Supplemental Air Carriers

(a) Except as provided in Paragraph (b) of this section, each supplemental air carrier shall carry appropriate parts of the manual on each aircraft when away from the principal base. The appropriate parts must be available for use by ground or flight personnel. If a supplemental air carrier carries aboard an aircraft all or any portion of the maintenance part of its manual in microfilm it must also carry a reading device that provides a legible facsimile image of the microfilmed maintenance information and instructions.

(b) If a supplemental air carrier is able to perform all scheduled maintenance at specified stations where it keeps maintenance parts of the manual, it does not have to carry those parts of the manual aboard the aircraft enroute to those stations.

121.141. Airplane Flight Manual

(a) Each certificate holder shall keep a current approved airplane flight manual for each type of airplane that it operates.

b) In each airplane required to have an airplane flight manual in Paragraph (a) of this section, the certificate holder shall carry either the manual required by Section 121.133, if it contains the information required for the applicable flight manual and this information is clearly identified as flight manual requirements, or an approved Airplane Manual. If the certificate holder elects to carry the manual required by Section 121.133, the certificate holder may revise the operating procedures sections and modify the presentation of performance data from the applicable flight manual if the revised operating procedures and modified performance data presentation are:
   (1) Approved by the Director; and
   (2) Clearly identified as airplane flight manual requirements.

121.143. Standard Operating Procedures

a) Every air carrier shall establish standard operating procedures that ensure the aircraft is operated in accordance with the approved aircraft flight manual and the manufactures recommended procedures. The standard operating procedures must ensure proper co-ordination of all crewmembers including flight attendants.

b) An air carrier that has established a standard operating procedures manual shall ensure it is maintained in a current condition and carried on board each aircraft of that type.

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121.151. Applicability

This subpart prescribes aircraft requirement for all *Air Operator Certificate holders*

121.153. Aircraft requirements: General

(a) Except as provided in paragraph (b) of this section no air operator certificate holder may operate an aircraft unless there has been issued with respect to and carried on board that aircraft:
(1) A certificate of registration as civil aircraft issued by Indonesia
(2) A valid certificate of airworthiness or
(3) A document approved by DGAC for purpose of certifying the airworthiness of that aircraft.
(4) A current weight and balance document.
(5) A radio license authorizing all radio apparatus installed in that aircraft and
(6) Any other document deemed appropriate by the Director, which gives evidence as to the legal or operational status of that aircraft
(b) An Air Operator Certificate holder may use an approved weight and balance control system based on average, assumed, or estimated weight to comply with applicable airworthiness requirements and operating limitations.

121.155. Operation of Foreign Registered Aircraft

An Air Operator Certificate holder may operate in common carriage a civil aircraft which is leased or chartered and is registered in a country which is party to the Convention on International Civil Aviation if-

(a) The aircraft carries an appropriate airworthiness certificate issued by the country of registration and meets registration and identification requirements of that country;
(b) The aircraft is of a type design which is approved under an Indonesian type certificate and complies with all of the requirements of the CASRs that would be applicable to that aircraft were it registered in Indonesia, including the requirements which must be met for issuance of an Indonesian standard airworthiness certificate (including type design conformity. condition for safe operation, and the fuel venting, and engine emission requirements of the CASRs), except that an Indonesian registration certificate and an Indonesian standard airworthiness certificate will not be issued for the aircraft;
(c) The aircraft is operated by certificated airmen employed by the air operator certificate holder; and
(d) The air operator certificate holder files a copy of the aircraft lease or charter agreement with the DGAC.

121.157. Aircraft Certification and Equipment Requirements

Newly type certificated airplanes. No person may operate under this part an airplane that was type certificated by the country of manufacture after July 1993 unless the airplane meets the requirements of Part 25 of the CASRs.

121.151. Applicability

This subpart prescribes aircraft requirement for all *Air Operator Certificate holders*

121.153. Aircraft requirements: General

(a) Except as provided in paragraph (b) of this section no air operator certificate holder may operate an aircraft unless there has been issued with respect to and carried on board that aircraft:
(1) A certificate of registration as civil aircraft issued by Indonesia
(2) A valid certificate of airworthiness or
(3) A document approved by DGAC for purpose of certifying the airworthiness of that aircraft.
(4) A current weight and balance document.
(5) A radio license authorizing all radio apparatus installed in that aircraft and
(6) Any other document deemed appropriate by the Director, which gives evidence as to the legal or operational status of that aircraft
(b) An Air Operator Certificate holder may use an approved weight and balance control system based on average, assumed, or estimated weight to comply with applicable airworthiness requirements and operating limitations.

121.155. Operation of Foreign Registered Aircraft

An Air Operator Certificate holder may operate in common carriage a civil aircraft which is leased or chartered and is registered in a country which is party to the Convention on International Civil Aviation if-

(a) The aircraft carries an appropriate airworthiness certificate issued by the country of registration and meets registration and identification requirements of that country;
(b) The aircraft is of a type design which is approved under an Indonesian type certificate and complies with all of the requirements of the CASRs that would be applicable to that aircraft were it registered in Indonesia, including the requirements which must be met for issuance of an Indonesian standard airworthiness certificate (including type design conformity, condition for safe operation, and the fuel venting, and engine emission requirements of the CASRs), except that an Indonesian registration certificate and an Indonesian standard airworthiness certificate will not be issued for the aircraft;
(c) The aircraft is operated by certificated airmen employed by the air operator certificate holder; and
(d) The air operator certificate holder files a copy of the aircraft lease or charter agreement with the DGAC.

121.157. Aircraft Certification and Equipment Requirements

Newly type certificated airplanes. No person may operate under this part an airplane that was type certificated by the country of manufacture after July 1993 unless the airplane meets the requirements of Part 25 of the CASRs.

121.159. Single Engine Airplanes Prohibited

No certificate holder may operate a single-engine airplane under this part.

121.161. Airplane Limitations: Type of Route

(a) Unless authorized by the Director, based on the character of the terrain, the kind of operation, or the performance of the airplane to be used, no certificate holder may operate two engine or three engine airplanes (except a three-engine turbine-powered airplane) over a route that contains a point farther than 1 hour flying time (in still air at normal cruising speed with one engine inoperative) from an adequate airport.

(b) No certificate holder may operate a land airplane in an extended overwater operation unless it is certificated or approved as adequate for ditching under the ditching provisions of Part 25 of the CASRs. In the case of aircraft certified prior to the enactment of Part 25, the Director may issue operations specifications that allow deviation from the requirements of this paragraph if standards of safety allow such a deviation.

(c) No airplane with two turbine Power units shall be operated under this part on extended range operations unless the operation has been specifically approved by DGAC.

121.163. Aircraft Proving Test

(a) Initial airplane proving tests. No air carrier may operate an aircraft before the aircraft is proven for use in air carrier or cargo operations as appropriate unless an aircraft of that type has had, in addition to the aircraft certification tests, at least 100 hours of proving tests acceptable to the Director, including a representative number of flights into enroute airports. The requirement for at least 100 hours of proving tests may be reduced by the Director if the Director determines that a satisfactory level of proficiency has been demonstrated to justify the reduction. At least 10 hours of proving tests must be flown at night.

(b) Proving tests for kinds of operations. Unless otherwise authorized by the Director, for each type of airplane, a certificate holder must conduct proving tests acceptable to the Director for each kind of operation it intends to conduct, including a representative number of flights into enroute airports.

(c) Proving tests for materially altered airplanes. Unless otherwise authorized by the Director, for each type of airplane that is materially altered in design, a certificate holder must conduct proving tests acceptable to the Director for each kind of operation it intends to conduct with that airplane, including a representative number of flights into enroute airports.

(d) Definition of materially altered. For the purposes of Paragraph (c) of this section, a type of airplane is considered to be materially altered in design if the alteration includes:

(1) The installation of powerplants other than those of a type similar to those with which it is certificated; or

(2) Alterations to the aircraft or its components that materially affect flight characteristics.

(e) No certificate holder may carry passengers in an aircraft during proving tests, except for those needed to make the test and those designated by the Director. However, the certificate holder may carry mail, express parcels, or other cargo when approved by the Director.

(e) No certificate holder may carry passengers in an aircraft during proving tests, except for those needed to make the test and those designated by the Director. However, the certificate holder may carry mail, express parcels, or other cargo when approved by the Director.

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121.171 Applicability

(a) This subpart prescribes aeroplane performance operating limitations for all Air Operator Certificate holders.

(b) For purposes of this part, "effective length of the runway" for landing means the distance from the point at which the obstruction clearance plane associated with the approach end of the runway intersects the centerline of the runway to the far end of that runway.

(c) For the purposes of this subpart, "obstruction clearance plane" means a plane sloping upward from the runway at a slope of 1:20 to the horizontal, and tangent to or clearing all obstructions within a specified area surrounding the runway as shown in a profile view of that area. In the plan view, the centerline of the specified area coincides with the centerline of the runway, beginning at the point where the obstruction clearance plane intersects the centerline of the runway and proceeding to a point at least 1,500 feet from the beginning point. Thereafter the centerline coincides with the takeoff path over the ground for the runway (in the case of takeoffs) or with the instrument approach counterpart (for landings), or, where the applicable one of these paths has not been established, it proceeds consistent with turns of at least 4.000-foot radius until a point is reached beyond which the obstruction clearance plane clears all obstructions. This area extends laterally 200 feet on each side of the centerline at the point where the obstruction clearance plane intersects the runway and continues at this width to the end of the runway; then it increases uniformly to 500 feet on each side of the centerline at a point 1,500 feet from the intersection of the obstruction clearance plane with the runway; thereafter it extends laterally 500 feet on each side of the centerline.

121.173 General

(a) The provisions of 121.173 to 121.183 are to be complied with, unless deviations therefrom are specifically authorized by the State of Registry on the ground that the special circumstances of a particular case make a literal observance of these provisions unnecessary for safety.

(b) Compliance with 121.173 to 121.183 is to be established using performance data in the flight manual and in accordance with other applicable operating requirements. In no case may the limitations in the flight manual be exceeded. However, additional limitations may be applied when operational conditions not included in the flight manual are encountered.

(c) The procedures scheduled in the flight manual are to be followed except where operational circumstances require the use of modified procedures in order to maintain the intended level of safety.

(d) No person may take off a reciprocating-engine powered airplane at a weight is more than the allowable weight for the runway being used (determined under the runway take off limitations of the transport category operating rules of Part 121, Subpart I) after taking into account the temperature operating correction factors in the applicable Airplane Flight Manual.

(e) The Director may authorize in the certificate holder's operations specifications deviations from the requirements in this subpart if special circumstances make a literal observance of a requirement unnecessary for safety.

(f) The ten-mile width specified in Sections 121.179 through 121.183 may be reduced to five miles, for not more than 20 miles, when operating VFR or where navigation facilities furnish reliable and accurate identification of high ground and obstructions located outside of five miles, but within ten miles, on each side of the intended track.

121.175 Aeroplanes Take-off Performance Limitations

(a) No aeroplane is taken off at a weight which exceeds the take-off weight specified in the flight manual for the altitude of the aerodrome and for the ambient temperature existing at the time of the take-off.

(b) No aeroplane is taken off at a weight such that, allowing for normal consumption of fuel and oil in flight to the aerodrome of destination and to the destination alternate aerodromes, the weight on arrival will exceed the landing weight specified in the flight manual for the altitude of each of the aerodromes involved and for the ambient temperatures anticipated at the time of landing.

(c) No aeroplane is taken off at a weight which exceeds the weight at which, in accordance with the minimum distances for take-off scheduled in the flight manual, compliance with (c)(1) to (c)(3) inclusive is shown. These distances correspond with the altitude of the aerodrome, the runway, stopway and clearway to be used, the runway slope, the stopway slope, the clearway plane slope, and the ambient temperature and wind existing at the time of take-off.

(1) The take-off run required does not exceed the length of the runway.

(2) The accelerate-stop distance required does not exceed the length of the runway plus the length of the stopway, where present.

(3) The take-off distance required does not exceed the length of the runway, plus the length of the clearway, where present, except that the sum of the lengths of the runway and the clearway is in no case considered as being greater than 1.5 times the length of the runway.

(d) Credit is not taken for the length of the stopway or the length of the clearway unless they comply with the relevant specifications in ICAO Annex 14.

121.177 Take-off obstacle clearance limitations

(a) No aeroplane is taken off at a weight in excess of that shown in the flight manual to correspond with a net take-off flight path which clears all obstacles either by at least a height of 10.7 m (35 ft) vertically or at least 90 m plus 0.125D laterally, where D is the horizontal distance the aeroplane has travelled from the end of take-off distance available, except as provided in (a)(1)(3) inclusive. In determining the allowable deviation of the net take-off flight path in order to avoid obstacles by at least the distances specified, it is assumed that the aeroplane is not banked before the clearance of the net take-off flight path above obstacles is at least 15.2 m (50 ft) and that the bank thereafter does not exceed 15 degrees. The net take-off flight path considered is for the altitude of the aerodrome and for the ambient temperature and wind component existing at the time of take-off.

(1) Where the intended track does not include any change of heading greater than 15 degrees,
   (i) for operations conducted in VMC by day, or
   (ii) for operations conducted with navigation aids such that the pilot can maintain the aeroplane on the intended track with the same precision as for operations specified in (i).

   Obstacles at a distance greater than 300 m on either side of the intended track need not be cleared.

(2) Where the intended track does not include any change of heading greater than 15 degrees for operations conducted in IMC, or in VMC by night, except as provided in (a) (1) (ii); and where the intended track includes changes of heading greater than 15 degrees for operations conducted in VMC by day, obstacles at a distance greater than 600 m on either side of the intended track need not be cleared.

(3) Where the intended track includes changes of heading greater than 15 degrees for operations conducted in IMC, or in VMC by night, obstacles at a distance greater than 900 m on either side of the intended track need not be cleared.

(b) In applying this section, corrections must be made for the effective runway gradient. To allow for wind effect, takeoff data based on still air may be corrected by taking into account not more than 50 percent of any reported headwind component and not less than 150 percent of any reported tailwind component.

121.179 Enroute Limitations

(a) General

At no point along the intended track, is an aeroplane having three or more engines to be more than 90 minutes at normal cruising speed away from an aerodrome at which the distance specifications for alternate aerodromes (121.183) are complied with and where it is expected that a safe landing can be made, unless it complies with (c)(2).

(b) One engine inoperative

(1) No aeroplane is taken off at a weight in excess of that which, in accordance with the one-engine-inoperative en-route net flight path data shown in the flight manual, permits compliance either with (2) or (3) at all points along the route. The net flight path has a positive slope at 450 m (1 500 ft) above the aerodrome where the landing is assumed to be made after engine failure. The net flight path used is for the ambient temperatures anticipated along the route. In meteorological conditions where icing protection systems are to be operable, the effect of their use on the net flight path data is taken into account.

(2) The slope of the net flight path is positive at an altitude of at least 300 m (1000 ft) above all terrain and obstructions along the route within 9.3 km (5 NM) on either side of the intended track.

(3) The net flight path is such as to permit the aeroplane to continue flight from the cruising altitude to an aerodrome where a landing can be made in accordance with 121.183 the net flight path clearing vertically, by at least 600m (2000 ft), all terrain and obstructions along the route within 9.3 km

(5NM) on either side of the intended track. The provisions of (3)(i) to (3)(v) inclusive are applied.

(i) The engine is assumed to fail at the most critical point along the route, allowance being made for indecision and navigational error.

(ii) Account is taken of the effects of winds on the flight path.

(iii) Fuel jettisoning is permitted to an extent consistent with reaching the aerodrome with satisfactory fuel reserves, if a safe procedure is used.

(iv) The aerodrome, where the aeroplane is assumed to land after engine failure, is specified in the operational flight plan and it meets the appropriate aerodrome operating minima.

(v) The consumption of fuel and oil after the engine becomes inoperative is that which is accounted for in the net flight path data shown in the flight manual.

(c) Two engines inoperative

(1) Aeroplanes which do not comply with 121.179(a) comply with (c)(2)

(2) No aeroplane is taken off at a weight in excess of that which according to the two-engines-inoperative en-route net flight path data shown in the flight manual, permits the aeroplane to continue flight from the point where two engines are assumed to fail simultaneously, to an aerodrome at which the landing distance specification for alternate aerodromes (121.183) is complied with and where it is expected that a safe landing can be made. The net flight path clears vertically, by at least 600 m (2 000 ft) all terrain and obstructions along the route within 9.3 km (5 NM) on either side of the intended track. The net flight path considered is for the ambient temperatures anticipated along the route. In altitudes and meteorological conditions where icing protection systems are to be operable, the effect of their use on the net flight path data is taken into account. The provisions of (2)(i) to (2)(v) inclusive apply.

(i) The two engines are assumed to fail at the most critical point of that portion of the route where the aeroplane is at more than 90 minutes at normal cruising speed away from an aerodrome at which the landing distance specification for alternate aerodromes (121.183) is complied with and where it is expected that a safe landing can be made.

(ii) The net flight path has a positive slope at 450 m (1 500 ft) above the aerodrome where the landing is assumed to be made after the failure of two engines.

(iii) Fuel jettisoning is permitted to an extent consistent with (c)(2)(iv), if a safe procedure is used.

(iv) The aeroplane weight at the point where the two engines are assumed to fail is considered to be not less than that which would include sufficient fuel to proceed to the aerodrome and to arrive there at an altitude of at least 450 m (1500 ft) directly over the landing area and thereafter to fly for 15 minutes at cruise power and/or thrust.

(v) The consumption of fuel and oil after the engines become inoperative is that which is accounted for in the net flight path data shown in the flight manual

121.181 Landing Limitations

(a) Aerodrome of destination

(1) No aeroplane is taken off at a weight in excess of that which, in accordance with the landing distances required as shown in the flight manual for the altitude of the aerodrome of intended destination, permits the aeroplane to be brought to rest at the aerodrome of intended destination within the effective length of the runway, this length being as declared by the aerodrome authorities with regard to the obstructions in the approach. The weight of the aeroplane is assumed to be reduced by the weight of the fuel and oil expected to be consumed in flight to the aerodrome of intended destination. Compliance is shown with (1)(iii) and with either (1)(iv) or (1)(v).

(i) The runway slope is assumed to be zero, unless the runway is usable in only one direction.

(ii) A runway condition (wet or dry) not more favourable than that expected is taken into account.

(iii) It is assumed that the aeroplane is landed on the most favourable runway and in the most favourable direction in still air.

(iv) It is assumed that the aeroplane is landed on the runway which is the most suitable for the wind conditions anticipated at the aerodrome at the time of landing, taking due account of the probable wind speed and direction, of the ground handling characteristics of the aeroplane, and of other conditions (i.e. landing aids, terrain, etc.).

(v) If full compliance with (1)(iv) is not shown, the aeroplane may be taken off if a destination alternate aerodrome is designated which permits compliance with 121.183

(b) In applying this section the following factors must be taken into account after an engine failure:

(1) The effects of wind and temperature on the net flight path; and

(2) The effects of fuel jettisoning, where the jettisoning is conducted in accordance with procedures set out in the company manual and sufficient fuel remains to complete a landing with the required fuel reserves.

121.183 Destination Alternate Aerodrome

(a) No aerodrome is designated as a destination alternate aerodrome unless the aeroplane, at the weight anticipated at the time of arrival at such aerodrome, can meets the landing distance required as shown in the flight manual for the altitude of the alternate aerodrome and in accordance with other applicable operating requirements for the alternate aerodrome.

(1) There is no place along the intended track that is more than 90 minutes (with all-engines-operating at cruising power) from an airport that meets the requirements of Section 121.187; or

(2) It is operated at a weight allowing the airplane, with the two critical engines inoperative, to climb at 0.013 Vso^2 feet per minute (that is, the number of feet per minute is obtained by multiplying the number of knots squared by 0.013) at an altitude of 1,000 feet above the highest ground or obstruction within 10 miles on each side of the intended track, or at an altitude of 5,000 feet, whichever is higher.

(b) For the purpose of Paragraph (a)(2) of this section, it is assumed that-

(1) The two engines fail at the point that is most critical with respect to the takeoff weight;

(2) Consumption of fuel and oil is normal with all-engines-operating up to the point where the two engines fail and with two engines operating beyond that point;

(3) Where the engines are assumed to fail at an altitude above the prescribed minimum altitude, compliance with the prescribed rate of climb at the prescribed minimum altitude, if those requirements can be met once the prescribed minimum altitude is reached, and assuming descent to be along a net flight path and the rate of descent to be 0.013 Vso^2 greater than the rate in the approved performance data; and

(4) If fuel jettisoning is provided, the airplane's weight at the point where the two engines fail is considered to be not less than that which would include enough fuel to proceed to an airport meeting the requirements of Section 121.187 and to arrive at an altitude of at least 1,000 feet directly over that airport.

121.185 Airplanes: Reciprocating Engine Powered: Landing Limitations: Destination Airport

(a) Except as provided in paragraph (b) of this section no person operating a reciprocating engine powered airplane may takeoff that airplane, unless its weight on arrival, allowing for normal consumption of fuel and oil in flight, would allow a full stop landing at the intended destination within 60 percent of the effective length of each runway described below from a point 50 feet directly above the intersection of the obstruction clearance plane and the runway. For the purposes of determining the allowable landing weight at the destination airport the following is assumed:

(1) The airplane is landed on the most favourable runway and in the most favourable direction in still air.

(2) The airplane is landed on the most suitable runway considering the probable wind velocity and direction (forecast for the expected time of arrival), the ground handling characteristics of the type of airplane, and other conditions such as landing aids and terrain, and allowing for the effect of the landing path and roll of not more than 50 percent of the headwind component or not less than 150 percent of the tailwind component.

(b) An airplane that would be prohibited from being taken off because it could not meet the requirements of Paragraph (a)(2) of this section may be taken off if an alternate airport is specified that meets all of the requirements of this section except that the airplane can accomplish a full stop landing within 70 percent of the effective length of the runway.

121.187 Airplanes: Reciprocating Engine Powered: Landing Limitations: Alternate Airport

No person may list an airport as an alternate airport in a dispatch or flight release unless the airplane (at the weight anticipated at the time of arrival at the airport), based on the assumptions in Section 121.185, can be brought to a full stop landing, within 70 percent of the effective length of the runway.

121.189 Airplanes: Turbine Engine Powered: Takeoff Limitations

(a) No person operating a turbine engine powered airplane may takeoff that airplane at a weight greater than that listed in the Airplane Flight Manual for the elevation of the airport and for the ambient temperature existing at takeoff.

(b) No person operating a turbine engine powered airplane may takeoff that airplane at a weight greater than that listed in the Airplane Flight Manual at which compliance with the following may be shown:

(1) The accelerate-stop distance must not exceed the length of the runway plus the length of any stopway.

(2) The takeoff distance must not exceed the length of the runway plus the length of any clearway except that the length of any clearway included must not be greater than one-half the length of the runway.

(3) The takeoff run must not be greater than the length of the runway.

No person operating a turbine engine powered airplane may takeoff that airplane at a weight greater than that listed in the Airplane Flight Manual that allows a net takeoff flight path that clears all obstacles either by a height of at least 35 feet vertically, or by at least 200 feet horizontally within the airport boundaries and by at least 300 feet horizontally after passing the boundaries.

(c) In determining maximum weights, minimum distances and flight paths under Paragraphs (b) of this section, correction must be made for the runway to be used, the elevation of the airport, the effective runway gradient, and the ambient temperature and wind component at the time of takeoff.

(d) For the purposes of this section, it is assumed that the airplane is not banked before reaching a height of 50 feet, as shown by the takeoff path or net takeoff flight path data (as appropriate) in the Airplane Flight Manual, and thereafter that the maximum bank is not more than 15 degrees.

(e) For the purposes of this section the terms, "takeoff distance", "takeoff run", "net takeoff flight path" and "takeoff path" have the same meanings as set forth in the rules under which the airplane was certificated.

121.191 Airplane: Turbine Engine Powered: Enroute-Limitations: One Engine inoperative

(a) No person operating a turbine engine powered airplane may takeoff that airplane at a weight, allowing for normal consumption of fuel and oil, that is greater than that which (under the approved one engine inoperative, enroute net flight path data in the Airplane Flight Manual for that airplane) will allow compliance with Paragraph (a (1) or (2) of this section, based on the ambient temperatures expected enroute:

1 There is a positive slope at an altitude of at least 1,000 feet above all terrain and obstructions within five statute miles on each side of the intended track, and, in addition there is a positive slope at 1,500 feet above the airport where the airplane is assumed to land after an engine fails.

2 The net flight path allows the airplane to continue flight from the cruising altitude to an airport where a landing can be made under Section 121.197, clearing all terrain and obstructions within five statute miles of the intended track by at least 2,000 feet vertically and with a positive slope at 1,000 feet above the airport where the airplane lands after an engine fails, or with a

positive slope at 1,500 feet above the airport where the airplane lands after an engine fails.

(b) For the purposes of Paragraph (a)(2) of this section, it is assumed that:
(1) The engine fails at the most critical point enroute;
(2) The airplane passes over the critical obstruction, after engine failure at a point that is no closer to the obstruction than the nearest approved radio navigation fix, unless the Director authorizes a different procedure based on adequate operational safeguards;
(3) An approved method is used to allow for adverse winds:
(4) Fuel jettisoning will be allowed if the certificate holder shows that the crew is properly instructed, that the training program is adequate, and that all other precautions are taken to ensure a safe procedure;
(5) The alternate airport is specified in the dispatch or flight release and meets the prescribed weather minimums; and
(6) The consumption of fuel and oil after engine failure is the same as the consumption that is allowed for in the approved net flight path data in the Airplane Flight Manual.

121.193 Airplanes: Turbine Engine Powered: Enroute Limitations: Two Engines Inoperative

No person may operate a turbine engine powered airplane along an intended route unless he complies with either Paragraph (1) or (2), below:

(a) There is no place along the intended track that is more than 90 minutes (with all-engines-operating at cruising power) from an airport that meets the requirements of Section 121.197.

(b) Its weight, according to the two engine inoperative, enroute, net flight path data in the Airplane Flight Manual, allows the airplane to fly from the point where the two engines are assumed to fail simultaneously to an airport that meets the requirements of Section 121.197, with the net flight path (considering the ambient temperatures anticipated along the track) clearing vertically by at least 2,000 feet all terrain and obstructions within five statute miles (4.34 nautical miles) on each side of the intended track. For the purposes of this subparagraph, it is assumed that:
(1) The two engines fail at the most critical point enroute;
(2) The net flight path has a positive slope at 1,500 feet above the airport where the landing is assumed to be made after the engines fail;
(3) Fuel jettisoning will be approved if the certificate holder shows that the crew is properly instructed, that the training program is adequate, and that all other precautions are taken to ensure a safe procedure;
(4) The airplane's weight at the point where the two engines are assumed to fail provides enough fuel to continue to the airport, to arrive at an altitude of at least 1,500 feet directly over the airport, and thereafter to fly for 15 minutes at cruise power or thrust, or both; and
(5) The consumption of fuel and oil after the engine failure is the same as the consumption that is allowed for in the net flight path data in the Airplane Flight Manual.

21.195 Airplanes: Turbine Engine Powered: Landing Limitations: Destination Airports

) No person operating a turbine engine powered airplane at such a weight that (allowing for normal consumption of fuel and oil in flight to the destination or alternate airport) the weight of the airplane on arrival would exceed the lending weight set forth in the Airplane flight Manual for the elevation of the destination or alternate airport and the ambient temperature anticipated at the time of landing.

) Except as provided I Paragraph (c), (d), or (e) o this section, no person operating a turbine engine powered airplane may take off that airplane unless its weight on arrival, allowing for normal consumption of fuel and oil in flight (in accordance with the landing distance set forth in the Airplane Flight Manual for the elevation of the destination airport and the wind conditions anticipated there at the time of landing). Would allow a full stop landing at the intended destination airport within 60 percent of the effective length of each runway described below from a point 50 feet above the intersection of the obstruction clearance plane and the runway. For the purpose of determining the allowable landing weight at the destination airport the following is assumed:

(1) The airplane is landed on the most favorable runway and in the most favorable direction, in still air.

(2) The airplane is landed on the suitable runway considering the probable wind velocity and direction and the ground handling characteristics of the airplane, and considering other conditions such as landing aids and terrain.

) A turbo propeller powered airplane that would be prohibited from being taken off because if could not meet the requirements of Paragraph (b) (2) of the section, may be taken off if an alternate airport is specified that meets all the requirements of this section except that the airplane can accomplish a full stop landing within 70 percent of the effective length of the runway.

) Unless, based on a showing of actual operating landing techniques on wet runway, a shorter landing distance (but never less than that required by Paragraph (b) of this section) has been approved for a specific type and model airplane and included in the Airplane Flight Manual, person may takeoff a turbojet powered airplane when the appropriate water reports and forecasts, or a combination of those report and forecasts, indicate that the runway length at the destination airport may be wet or slippery at the estimated time of arrival unless the effective runway length at the destination airport is at least 115 percent of the runway length required under Paragraph (b) of this section.

) A turbojet powered airplane that would be prohibited from being taken off because it could not meet the requirements of Paragraph (b) (2) of this section may be taken off if an alternate airport is specified that meets all the requirements of Paragraph (b) of this section.

21.197 Airplanes: Turbine Engine Powered: Landing Limitations: Alternate Airports

) person may list an airport as an alternate airport in a dispatch or flight release for a rbine engine powered airplane unless (based on the assumptions in Section 21.195(b)) that airplane at the weight anticipated at the time of arrival can be brought to full stop landing within 70 percent of the effective length of the runway for turbo-

propeller powered airplanes and 60 percent of the effective length of the runway for turbojet powered airplanes, from a point 50 feet above the intersection of the obstruction clearance plane and the runway. In the case of an alternate airport for departure, as provided in Section 121.617, allowance may be made for fuel jettisoning in addition to normal consumption of fuel and oil when determining the weight anticipated at the time of arrival.

121.198 [Reserved]

121.199 [Reserved]

121.201 [Reserved]

121.203 [Reserved]

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121.207 [Reserved]

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121.211 Applicability

This subpart prescribes special airworthiness requirements applicable for all certificate holders.

121.213 Special Airworthiness Requirements: General

(a) This subpart prescribes special airworthiness requirements applicable to certificate holders as stated in Paragraphs (b) through (e) of this section.
(b) Except as provided in paragraph (d) of this section, each airplane type certificated by the country of manufacture or an airplane powered by aircraft engines rated at more than 600 horsepower each for maximum continuous operation unless they meet the requirements of Sections 121.215 through 121.283.
(c) Each certificate holder must comply with the requirements of Sections 121.285 through 121.291.
(d) If the Director General determines that, for a particular model of airplane used in cargo service, literal compliance with any requirement under Paragraph (b) of this section would be extremely difficult and that compliance would not contribute materially to the objective sought, he may require compliance only with those requirements that are necessary to accomplish the basic objectives of this part.
(e) This section does not apply to any airplane certificated under: CASR Part 25 or equivalent.

121.215 Cabin Interiors

(a) Except as provided in Section 121.312, each compartment used by the crew or passengers must meet the requirements of this section.
(b) Materials must be at least flash resistant.
(c) The wall and ceiling linings and the covering of upholstering, floors, and furnishings must be flame resistant.
(d) Each compartment where smoking is to be allowed must be equipped with self-contained ash trays that are completely removable and other compartments must be placarded against smoking.
(e) Each receptacle for used towels, papers, and wastes must be of fire resistant material and must have a cover or other means of containing possible fires started in the receptacles.

121.217 Internal Doors

In any case where internal doors are equipped with louvers or other ventilating means, there must be a means convenient to the crew for closing the flow of air through the door when necessary.

121.219 Ventilation

Each passenger or crew compartment must be suitably ventilated. Carbon monoxide concentration may not be more than one part in 20,000 parts of air, and fuel fumes may

not be present. In any case where partitions between compartments have louvers or other means allowing air to flow between compartments, there must be a means convenient to the crew for closing the flow of air through the partitions, when necessary.

121.221 Fire Precautions

(a) Each compartment must be designed so that, when used for storing cargo or baggage, it meets the following requirements:
   (1) No compartment may include controls, wiring, lines, equipment, or accessories that would upon damage or failure, affect the safe operation of the airplane unless the item is adequately shielded, isolated, or otherwise protected so that it cannot be damaged by movement of cargo in the compartment and so that damage to or failure of the item would not create a fire hazard in the compartment.
   (2) Cargo or baggage may not interfere with the functioning of the fire protective features of the compartment.
   (3) Materials used in the construction of the compartments, including tie down equipment, must be at least flame resistant.
   (4) Each compartment must include provisions for safeguarding against fires according to the classifications set forth in Paragraphs (b) through (f) of this section.

(b) Class A. Cargo and baggage compartments are classified in the "A" category if:
   (1) A fire therein would be readily discernible to a member of the crew while at his station; and
   (2) All parts of the compartment are easily accessible in flight.
   There must be a hand fire extinguisher available for each Class A compartment.

(c) Class B. Cargo and baggage compartments are classified in the "B" category if enough access is provided while in flight to enable a member of the crew to effectively reach all of the compartment and its contents with a hand fire extinguisher and the compartment is so designed that, when the access provisions are being used, no hazardous amount of smoke, flames, or extinguishing agent enters any compartment occupied by the crew or passengers. Each Class B compartment must comply with the following:
   (1) It must have a separate approved smoke or fire detector system to give warning at the pilot or flight engineer station.
   (2) There must be a hand fire extinguisher available for the compartment.
   (3) It must be lined with fire resistant material, except that additional service lining of flame resistant material may be used.

(d) Class C. Cargo and baggage compartments are classified in the "C" category if they do not conform with the requirements for the "A", "B", "D", or "E" categories. Each Class C compartment must comply with the following:
   (1) It must have a separate approved smoke or fire detector system to give warning at the pilot or flight engineer station.
   (2) It must have an approved built-in fire extinguishing system controlled from the pilot or flight engineer station.
   (3) It must be designed to exclude hazardous quantities of smoke, flames, or extinguishing agents from entering into any compartment occupied by the crew or passengers.

(4) It must have ventilation and draft controlled so that the extinguishing agent provided can control any fire that may start in the compartment.

(5) It must be lined with fire resistant material, except that additional service lining of flame resistant material may be used.

(e) **Class D.** Cargo and baggage compartments are classified in the "D" category if they are so designed and constructed that a fire occurring therein will be completely confined without endangering the safety of the airplane or the occupants. Each Class D compartment must comply with the following:

(1) It must have a means to exclude hazardous quantities of smoke, flames, or noxious gases from entering any compartment occupied by the crew or passengers.

(2) Ventilation and drafts must be controlled within each compartment so that any fire likely to occur in the compartment will not progress beyond safe limits.

(3) It must be completely lined with fire resistant material.

(4) Consideration must be given to the effect of heat within the compartment on adjacent critical parts of the airplane.

(f) **Class E.** On airplanes used for the carriage of cargo only, the cabin area may be classified as a Class "E" compartment. Each Class E compartment must comply with the following:

(1) It must be completely lined with fire resistant material.

(2) It must have a separate system of an approved type smoke or fire detector to give warning at the pilot or flight engineer station.

(3) It must have a means to shut off the ventilating air flow to or within the compartment and the controls for that means must be accessible to the flight crew in the crew compartment.

(4) It must have a means to exclude hazardous quantities of smoke, flames, or noxious gases from entering the flight crew compartment.

(5) Required crew emergency exits must be accessible under all cargo loading conditions.

121.223 Proof of Compliance with Section 121.221

Compliance with those provisions of Section 121.221 that refer to compartment accessibility, the entry of hazardous quantities of smoke or extinguishing agent into compartments occupied by the crew or passengers and the dissipation of the extinguishing agent in Class "C" compartments must be shown by tests in flight. During these tests it must be shown that no inadvertent operation of smoke or fire detectors in other compartments within the airplane would occur as a result of fire contained in any one compartment, either during the time it is being extinguished, or thereafter, unless the extinguishing system floods those compartments simultaneously.

121.225 Propeller Deicing Fluid

If combustible fluid is used for propeller deicing, the certificate holder must comply with Section 121.255.

121.227 Pressure Cross Feed Arrangements

(a) Pressure cross feed lines may not pass through parts of the airplane used for carrying persons or cargo unless:
   (1) There is a means to allow crewmembers to shut off the supply of fuel to these lines; or
   (2) The lines are enclosed in a fuel and fume proof enclosure that is ventilated and drained to the exterior of the airplane.

   However, such an enclosure need not be used if those lines incorporate no fittings on or within the personnel or cargo areas and are suitably routed or protected to prevent accidental damage.

(b) Lines that can be isolated from the rest of the fuel system by vaives at each end must incorporate provisions for relieving excessive pressures that may result from exposure of the isolated line to high temperatures.

121.229 Location of Fuel Tanks

(a) Fuel tanks must be located in accordance with Section 121.255.
(b) No part of the engine nacelle skin that lies immediately behind a major air outlet from the engine compartment may be used as the wall of an integral tank.
(c) Fuel tanks must be isolated from personnel compartments by means of fume and fuel proof enclosures.

121.231 Fuel System Lines and Fittings

a) Fuel lines must be installed and supported so as to prevent excessive vibration and so as to be adequate to withstand loads due to fuel pressure and accelerated flight conditions.
b) Lines connected to components of the airplanes between which there may be relative motion must incorporate provisions for flexibility.
c) Flexible connections in lines that may be under pressure and subject to axial loading must use flexible hose assemblies rather than hose clamp connections.
d) Flexible hose must be of an acceptable type or proven suitable for the particular application.

21.233 Fuel Lines and Fittings in Designated Fire Zones

uel lines and fittings in each designated fire zone must comply with Section 121.259.

21.235 Fuel Valves

ach fuel valve must:
a) Comply with Section 121.257;
b) Have positive stops or suitable index provisions in the "on" and "off" positions, and
c) Be supported so that loads resulting from its operation or from accelerated flight conditions are not transmitted to the lines connected to the valve.

121.237 Oil Lines and Fittings in Designated Fire Zones

Oil line and fittings in each designated fire zone must comply with Section 121.259.

121.239 Oil Valves

(a) Each oil valve must:
  (1) Comply with Section 121.257;
  (2) Have positive stops or suitable index provisions in the "on" and "off" positions; and
  (3) Be supported so that loads resulting from its operation or from accelerated flight conditions are not transmitted to the lines attached to the valve.

(b) The closing of an oil shutoff means must not prevent feathering the propeller, unless equivalent safety provisions are incorporated.

121.241 Oil System Drains

Accessible drains incorporating either a manual or automatic means for positive locking in the closed position, must be provided to allow safe drainage of the entire oil system.

121.243 Engine Breather Lines

(a) Engine breather lines must be so arranged that condensed water vapor that may freeze and obstruct the line cannot accumulate at any point.

(b) Engine breathers must discharge in a location that does not constitute a fire hazard in case foaming occurs and so that oil emitted from the line does not impinge upon the pilots' windshield.

(c) Engine breathers may not discharge into the engine air induction system.

121.245 Fire Walls

Each engine, auxiliary power unit, fuel burning heater, or other item of combustion equipment that is intended for operation in flight must be isolated from the rest of the airplane by means of firewalls or shrouds, or by other equivalent means.

121.247 Firewall Construction

Each firewall and shroud must:

(a) Be so made that no hazardous quantity of air, fluids, or flame can pass from the engine compartment to other parts of the airplane;

(b) Have all openings in the fire wall or shroud sealed with close fitting fireproof grommets, bushings, or firewall fittings;

(c) Be made of fireproof material; and

(d) Be protected against corrosion.

121.249 Cowling

(a) Cowling must be made and supported so as to resist the vibration inertia, and air loads to which it may be normally subjected.

(b) Provisions must be made to allow rapid and complete drainage of the cowling in normal ground and flight attitudes. Drains must not discharge in locations constituting a fire hazard. Parts of the cowling that are subjected to high temperatures because they are near exhaust system parts or because of exhaust gas impingement must be made of fireproof material. Unless otherwise specified in these regulations all other parts of the cowling must be made of material that is at least fire resistant.

121.251 Engine Accessory Section Diaphragm

Unless equivalent protection can be shown by other means, a diaphragm that complies with Section 121.247 must be provided on air-cooled engines to isolate the engine power section and all parts of the exhaust system from the engine accessory compartment.

121.253 Powerplant Fire Protection

(a) Designated fire zones must be protected from fire by compliance with Sections 121.255 through 121.261.

(b) Designated fire zones are:

(1) Engine accessory sections;

(2) Installations where no isolation is provided between the engine and accessory compartment; and

(3) Areas that contain auxiliary power units, fuel burning heaters, and other combustion equipment.

121.255 Flammable Fluids

(a) No tanks or reservoirs that are a part of a system containing flammable fluids or gases may be located in designated fire zones, except where the fluid contained, the design of the system, the materials used in the tank, the shutoff means, and the connections, lines, and controls provide equivalent safety.

(b) At least one-half inch of clear airspace must be provided between any tank or reservoir and a firewall or shroud isolating a designated fire zone.

121.257 Shutoff Means

(a) Each engine must have a means for shutting off or otherwise preventing hazardous amounts of fuel, oil, deicer, and other flammable fluids from flowing into, within, or through any designated fire zone. However, means need not be provided to shut off flow in lines that are an integral part of an engine.

(b) The shutoff means must allow an emergency operating sequence that is compatible with the emergency operation of other equipment, such as feathering the propeller, to facilitate rapid and effective control of fires.

(c) Shutoff means must be located outside of designated fire zones, unless equivalent safety is provided, and it must be shown that no hazardous amount of flammable fluid will drain into any designated fire zone after a shut off.

(d) Adequate provisions must be made to guard against inadvertent operation of the shutoff means and to make it possible for the crew to reopen the shutoff means after it has been closed.

121.259 Lines and Fittings

(a) Each line, and its fittings, that is located in a designated fire zone, if it carries flammable fluids or gases under pressure, or is attached directly to the engine, or is subject to relative motion between components (except lines and fittings forming an integral part of the engine), must be flexible and fire resistant with fire resistant, factory fixed, detachable, or other approved fire resistant ends.

(b) Lines and fittings that are not subject to pressure or to relative motion between components must be of fire resistant materials.

121.261 Vent and Drain Lines

All vent and drain lines and their fittings, that are located in a designated fire zone must, if they carry flammable fluids or gases, comply with Section 121.259, if the Director General finds that the rupture or breakage of any vent or drain line may result in a fire hazard.

121.263 Fire Extinguishing Systems

(a) Unless the certificate holder shows that equivalent protection against destruction of the airplane in case of fire is provided by the use of fireproof materials in the nacelle and other components that would be subjected to flame, fire-extinguishing systems must be provided to serve all designated fire zones.

(b) Materials in the fire extinguishing system must not react chemically with the extinguishing agent so as to be a hazard.

121.265 Fire Extinguishing Agents

Only methyl bromide, carbon dioxide, or another agent that has been shown to provide equivalent extinguishing action may be used as a fire extinguishing agent. If methyl bromide or any other toxic extinguishing agent is used, provisions must be made to prevent harmful concentrations of fluid or fluid vapors from entering any personnel compartment either because of leakage during normal operation of the airplane or because of discharging the fire extinguisher on the ground or in flight when there is a defect in the extinguishing system. If a methyl bromide system is used, the containers must be charged with dry agent and sealed by the fire extinguisher manufacturer or some other person using satisfactory recharging equipment. If carbon dioxide is used, it must not be possible to discharge enough gas into the personnel compartments to create a danger of suffocating the occupants.

121.267 Extinguishing Agent Container Pressure Relief

Extinguishing agent containers must be provided with a pressure relief to prevent bursting of the container because of excessive internal pressures The discharge line from the relief connection must terminate outside the airplane in a place convenient for inspection on the ground. An indicator must be provided at the discharge end of the line to provide a visual indication when the container has discharged.

121.269 Extinguishing Agent Container Compartment Temperature

Precautions must be taken to ensure that the extinguishing agent containers are installed in places where reasonable temperatures can be maintained for effective use of the extinguishing system.

121.271 Fire Extinguishing System Materials

(a) Except as provided in Paragraph (b) of this section, each component of a fire extinguishing system that is in a designated fire zone must be made of fireproof materials.

(b) Connections that are subject to relative motion between components of the airplane must be made of flexible materials that are at least fire resistant and be located so as to minimize the probability of failure.

121.273 Fire Detector Systems

Enough quick acting fire detectors must be provided in each designated fire zone to assure the detection of any fire that may occur in that zone.

121.275 Fire Detectors

Fire detectors must be made and installed in a manner that assures their ability to resist, without failure, all vibration, inertia, and other loads to which they may be normally subjected. Fire detectors must be unaffected by exposure to fumes. oil, water, or other fluids that may be present.

121.277 Protection of Other Airplane Components Against Fire

(a) Except as provided in Paragraph (b) of this section, all airplane surfaces aft of the nacelles in the area of one nacelle diameter on both sides of the nacelle centerline must be made of material that is at least fire resistant.

(b) Paragraph (a) of this section does not apply to tail surfaces lying behind nacelles unless the dimensional configuration of the airplane is such that the tail surfaces could be affected readily by heat, flames, or sparks emanating from a designated fire zone or from the engine compartment of any nacelle.

121.279 Control of Engine Rotation

(a) Except as provided in Paragraph (b) of this section, each airplane must have a means of individually stopping and restarting the rotation of any engine in flight.

(b) In the case of turbine engine installations, a means of stopping the rotation need be provided only if the Director General finds that rotation could jeopardize the safety of the airplane.

121.281 Fuel System Independence

(a) Each airplane fuel system must be arranged so that the failure of any one component does not result in the irrecoverable loss of power of more than one engine.

(b) A separate fuel tank need not be provided for each engine if the certificate holder shows that the fuel system incorporates features that provide equivalent safety.

121.283 Induction System Ice Prevention

A means for preventing the malfunctioning of each engine due to ice accumulation in the engine air induction system must be provided for each airplane.

121.285 [Reserved]

121.287 Carriage of Cargo in Cargo Compartments

When cargo is carried in cargo compartments that are designed to require the physical entry of a crewmember to extinguish any fire that may occur during flight, the cargo must be loaded so as to allow a crewmember to effectively reach all parts of the compartment with the contents of a hand fire extinguisher.

121.289 Landing Gear: Aural Warning Device

(a) Except for airplanes that comply with the requirements of Section 25.729 of the CASRs each airplane must have a landing gear aural warning device that functions continuously under the following conditions:

(1) For airplanes with an established approach wing flap position, whenever the wing flaps are extended beyond the maximum certificated approach climb configuration position in the Airplane Flight Manual and the landing gear is not fully extended and locked.

(2) For airplanes without an established approach climb wing flap position, whenever the wing flaps are extended beyond the position at which landing gear extension is normally performed and the landing gear is not fully extended and locked.

(b) The warning system required by Paragraph (a) of this section:

(1) May not have a manual shutoff;

(2) Must be in addition to the throttle actuated device installed under the type certification airworthiness requirements; and

(3) May utilize any part of the throttle actuated system including the aural warning device.

(c) The flap position sensing unit may be installed at any suitable place in the airplane.

121.291 Demonstration of Emergency Evacuation Procedures

(a) Except as provided in Paragraph (a)(1) of this section, each certificate holder must conduct an actual demonstration of emergency evacuation procedures in accordance with Paragraph (a) of Appendix A to this part to show that each type and model of airplane with a seating capacity of more than 44 passengers to be used in its passenger-carrying operations allows the evacuation of the full capacity, including crewmembers, in 90 seconds or less:

(1) An actual demonstration need not be conducted if that airplane type and model has been shown to be in compliance with CASR 25.803 during initial type certification.

(2) Any actual demonstration conducted must be in accordance with Paragraph (a) of Appendix A to this part or with CASR 25.803.

(b) Each certificate holder conducting operations with airplanes with a seating capacity of more than 44 passengers must conduct a partial demonstration of emergency evacuation procedures in accordance with Paragraph (c) of this section upon:

(1) Initial introduction of a type and model of airplane into passenger-carrying operation, if the certificate holder has not conducted an actual demonstration under Paragraph (a) of this section;

(2) Changing the number, location, or emergency evacuation duties or procedures of flight attendants who are required by Section 121.391; or

(3) Changing the number, location, type of emergency exits, or type of opening mechanism on emergency exits available for evacuation.

(c) In conducting the partial demonstration required by Paragraph (b) of this section, each certificate holder must:

(1) Demonstrate the effectiveness of its crewmember emergency training and evacuation procedures by conducting a demonstration, not requiring passengers and observed by the Director General, in which the flight attendants for that type and model of airplane, using that operator's line operating procedures, open 50 percent of the required floor-level emergency exits and 50 percent of the required non floor-level emergency exits whose opening by a flight attendant is defined as an emergency evacuation duty under Section 121.397, and deploy 50 percent of the exit-slides. The exits and slides will be selected by the Director General and must be ready for use within 15 seconds;

(2) Apply for and obtain approval from the DGAC before conducting the demonstration;

(3) Use flight attendants in this demonstration who have been selected at random by the Director General, have completed the certificate holder's DGAC-approved training program for the type and model of airplane, and have passed a written or practical examination on the emergency equipment and procedures; and

(4) Apply for and obtain approval from the DGAC before commencing operations with this type and model airplane.

(d) Each certificate holder operating or proposing to operate one or more landplanes in extended overwater operations, or otherwise required to have certain equipment

under Section 121.339, must show, by simulated ditching conducted in accordance with Paragraph (b) of Appendix A to this part, that it has the ability to efficiently carry out its ditching procedures.

(e) For a type and model airplane for which the simulated ditching specified in Paragraph (d) has been conducted by a Part 121 certificate holder, the requirements of Paragraphs (b)(2), (b)(4), and (b)(5) of Appendix A to this part are complied with if each life raft is removed from stowage, one life raft is launched and inflated (or one slide life raft is inflated) and crewmembers assigned to the inflated life raft display and describe the use of each item of required emergency equipment. The life raft or slide life raft to be inflated will be selected by the Director General.

121.293 [Reserved]

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121.301 Applicability

This subpart prescribes instrument and equipment requirements for all certificate holders.

121.303 Airplanes Instruments and Equipment

(a) Unless otherwise specified, the instrument and equipment requirements of this subpart apply to all operations under this part.
(b) Instruments and equipment required by Sections 121.305 through 121.359 must be approved and installed in accordance with the airworthiness requirements applicable to them.
(c) Each airspeed indicator must be calibrated in knots, and each airspeed limitation and item of related information in the Airplane Flight Manual and pertinent placards must be expressed in knots.
(d) Except as provided in Sections 121.627(b) and 121.628, no person may takeoff any airplane unless the following instruments and equipment are in operable condition:
(1) Instruments and equipment required to comply with airworthiness requirements under which the airplane is type certificated and as required by Sections 121.213 through 121.283 and 121.289.
(2) Instruments and equipment specified in Sections 121.305 through 121.321 and 121.359 for all operations, and the instruments and equipment specified in Sections 121.323 through 121.351 for the kind of operation indicated, wherever these items are not already required by Paragraph (d)(1) of this section.
3) After December 31, 1997 the instruments and equipment required by Section 121.360, unless required earlier:
i) in a plan issued to the certificate holder by the Director to obtain information on system reliability; or
ii) In the certificate holder's operations specifications.

21.305 Flight and Navigational Equipment

lo person may operate an airplane unless it is equipped with the following flight and navigational ıstruments and equipment:

a) An airspeed indicating system with heated pitot tube or equivalent means for preventing malfunctioning due to icing.
b) A sensitive altimeter.
c) A sweep-second hand clock (or approved equivalent).
d) A free air temperature indicator.
e) A gyroscopic bank and pitch indicator (artificial horizon).
f) A gyroscopic rate of turn indicator combined with an integral slip/skid indicator (turn and bank indicator) except that only a slip/skid indicator is required when a third attitude instrument system usable through flight attitudes of 360° of pitch and roll is installed in accordance with Paragraph (j) of this section.
g) A gyroscopic direction indicator (directional gyro or equivalent).
h) A magnetic compass.

(i) A vertical speed indicator (rate of climb indicator).

(j) On each turbo jet and turbo propeller powered airplane two gyroscopic bank-and-pitch indicators (artificial horizons) for use at the pilot stations. In addition, for turbo jet powered airplanes a third such instrument that complies with the provisions of Paragraph (k) of this section.

(k) When required by Paragraph (j) of this section, a third gyroscopic bank-and-pitch indicator (artificial horizon) that:

(1) Is powered from a source independent of the electrical generating system;

(2) Continues reliable operation for a minimum of 30 minutes after total failure of the electrical generating system;

(3) Operates independently of any other attitude indicating system;

(4) Is operative without selection after total failure of the electrical generating system;

(5) Is located on the instrument panel in a position acceptable to the Director that will make it plainly visible to and usable by each pilot at his or her station; and

(6) Is appropriately lighted during all phases of operation.

121.307 Engine Instruments

Unless the Director allows or requires different instrumentation for turbine engine powered airplanes to provide equivalent safety, no person may conduct any operation under this part without the following engine instruments:

(a) A carburetor air temperature indicator for each engine.

(b) A cylinder head temperature indicator for each air cooled engine.

(c) A fuel pressure indicator for each engine.

(d) A fuel flowmeter or fuel mixture indicator for each engine not equipped with an automatic altitude mixture control.

(e) A means for indicating fuel quantity in each fuel tank to be used.

(f) A manifold pressure indicator for each engine.

(g) An oil pressure indicator for each engine.

(h) An oil quantity indicator for each oil tank when a transfer or separate oil reserve supply is used.

(i) An oil in temperature indicator for each engine.

(j) A tachometer for each engine.

(k) An independent fuel pressure warning device for each engine or a master warning device for all engines with a means for isolating the individual warning circuits from the master warning device.

(l) A device for each reversible propeller, to indicate to the pilot when the propeller is in reverse pitch, that complies with the following:

(1) The device may be actuated at any point in the reversing cycle between the normal low pitch stop position and full reverse pitch, but it may not give an indication at or above the normal low pitch stop position.

(2) The source of indication must be actuated by the propeller blade angle or be directly responsive to it.

121.308 Lavatory Fire Protection

(a) No person may operate a passenger-carrying airplane unless each lavatory in the airplane is equipped with a smoke detector system or equivalent that provides a

warning light in the cockpit or provides a warning light or audio warning in the passenger cabin which would be readily detected by a flight attendant, taking into consideration the positioning of flight attendants throughout the passenger compartment during various phases of flight.

(b) No person may operate a passenger-carrying airplane unless each lavatory in the airplane is equipped with a built-in fire extinguisher for each disposal receptacle for towels, paper, or waste located within the lavatory. The built-in fire extinguisher must be designed to discharge automatically into each disposal receptacle upon occurrence of a fire in the receptacle.

121.309 Emergency Equipment

(a) General: No person may operate an airplane unless it is equipped with the emergency equipment listed in this section and in Section 121.310.

(b) Each item of emergency and flotation equipment listed in this section and in Sections 121.310, 121.339, and 121.340:

(1) Must be inspected regularly in accordance with inspection periods established in the operations specifications to ensure its condition for continued serviceability and immediate readiness to perform its intended emergency purposes;

(2) Must be readily accessible to the crew and, with regard to equipment located in the passenger compartment, to passengers;

(3) Must be clearly identified and clearly marked to indicate its method of operation; and

(4) When carried in a compartment or container, must be carried in a compartment or container marked as to contents and the compartment or container, or the item itself, must be marked as to date of last inspection.

(c) Hand fire extinguishers for crew, passenger, cargo, and galley compartments. Hand fire extinguishers of an approved type must be provided for use in crew, passenger, cargo, and galley compartments in accordance with the following:

(1) The type and quantity of extinguishing agent must be suitable for the kinds of fires likely to occur in the compartment where the extinguisher is intended to be used and, for passenger compartments, must be designed to minimize the hazard of toxic gas concentrations.

(2) Cargo compartments. At least one hand fire extinguisher must be conveniently located for use in each class E cargo compartment that is accessible to crewmembers during flight.

(3) Galley compartments. At least one hand fire extinguisher must be conveniently located for use in each galley, in addition to those fire extinguishers located in a passenger, cargo or crew compartment.

(4) Flightcrew compartment. At least one hand fire extinguisher must be conveniently located on the flight deck for use by the flightcrew.

(5) Passenger compartments. Hand fire extinguishers for use in passenger compartments must be conveniently located and, when two or more are required, uniformly distributed throughout each compartment. Hand fire extinguishers shall be provided in passenger compartments as follows:

(i) For airplanes having passenger seats accommodating more than 6 but less than 31 passengers, at least one.

(ii) For airplanes having passenger seats accommodating more than 30 but less than 61 passengers, at least two.

(iii) For airplanes having passenger seats accommodating more than 60 passengers, there must be at least the following number of hand fire extinguishers:

Minimum Number of Hand Fire Extinguishers	
Passenger seating accommodations:	
61 through 200	3
201 through 300	4
301 through 400	5
401 through 500	6
501 through 600	7
601 or more	8

(6) Notwithstanding the requirement for uniform distribution of hand fire extinguishers as prescribed in Paragraph (c)(5) of this section, for those cases where a galley is located in a passenger compartment, at least one hand fire extinguisher must be conveniently located and easily accessible for use in the galley.

(7) At least two of the required hand fire extinguisher installed in passenger-carrying airplanes must contain Halon 1211 (bromochlorofluoromethane) or equivalent as the extinguishing agent. At least one hand fire extinguisher in the passenger compartment must contain Halon 1211 or equivalent.

(d) First aid and emergency medical equipment

For treatment of injuries or medical emergencies that might occur during flight time or in minor accidents each aircraft having a passenger seating configuration of 10 or more seats for both commuter and charter air operations must have the following equipment that meets the specifications and requirements acceptable to the Director.

(1) Approved first aid kit with at least the following contents;

First Aid Kit Contents	Quantity
Adhesive bandage compressor, 1-inch	16
Antiseptic swabs	20
Ammonia inhalants	10
Bandage compressor, 4-ich	8
Triangular bandage compressors, 40-ich	5
Arm splint, non-inflatable	1
Leg splint, non-inflatable	1
Roller bandage, 4-ich	4
Adhesive tape, 1-inch standard roll	2
Bandage scissors	1
Protective latex gloves or equivalent non-permeable gloves	1 pair
Burn compound, 1/8-oz or an equivalent of other burn remedy	6

(2) For airplanes for which a flight attendant is required, an emergency medical kit containing the following medical supplies.

Emergency Medical Kit Contents	Quantity
Sphygmomanometer	1
Stethoscope	1
Airways, oropharyngeal (3 sizes)	3
Syringes (as required to administer drugs)	4
Needles (as required to administer drugs)	6
50% Dextrose injection, 50cc	1
Epinephrine 1: 1000 single ample or equivalent	2
Diphenhydramine HCl injection, single dose ample or equivalent	2
Nitroglycerin Tablets	10
Basic instructions for use of the drugs in the kit	1

e) Crash axe. Each airplanes must be equipped with a crash axe.

) Megaphones. Each passenger-carrying airplane must have a portable battery powered megaphone or megaphones readily accessible to the crewmembers assigned to direct emergency evacuation, installed as follows:

(1) One megaphone on each airplane with a seating capacity of more than 60 and less than 100 passenger, at the most rearward location in the passenger cabin where it would be readily accessible to a normal flight attendant seat. However, the Director may grant a deviation from the requirements of this subparagraph if he finds that a different location would be more useful for evacuation of persons during an emergency.

(2) Two megaphones in the passenger cabin on each airplane with a seating capacity of more than 99 passengers, one installed at the forward end and the other at the most rearward location where it would be readily accessible to a normal flight attendant seat.

21.310 Additional Emergency Equipment.

ach passenger emergency exit marking and each locating sign must meet the quirements under which the airplane was type certified under CASR 25.

l) Means for emergency evacuation. Each passenger-carrying landplane emergency exit (other than over the wing) that is more than 6 feet from the ground with the airplane on the ground and the landing gear extended, must have an approved means to assist the occupants in descending to the ground. The assisting means for a floor-level emergency exit must meet the under which the airplane was type certificated. An assisting means that deploys automatically must be armed during taxiing, takeoffs, and landings. However, if the Director finds that the design of the exit makes compliance impractical, he may grant a deviation from the requirement of automatic deployment if the assisting means automatically erects upon deployment and, with respect to required emergency exits, if an emergency evacuation demonstration is conducted in accordance with Section 121.291(a).

) Interior emergency exit marking. The following must be complied with for each passenger-carrying airplane:

(1) Each passenger emergency exit, its means of access, and its means of opening must be conspicuously marked. The identity and location of each passenger emergency exit must be recognizable from a distance equal to the width of the cabin. The location of each passenger emergency exit must be

indicated by a sign visible to occupants approaching along the main passenger aisle. There must be a locating sign:

(i) Above the aisle near each over the wing passenger emergency exit, or at another ceiling location if it is more practical because of low headroom;

(ii) Next to each floor-level passenger emergency exit, except that one sign may serve two such exits if they both can be seen readily from that sign; and

(iii) On each bulkhead or divider that prevents fore and aft vision along the passenger cabin, to indicate emergency exits beyond and obscured by it, except that if this is not possible the sign may be placed at another appropriate location.

(2) Each passenger emergency exit marking and each locating sign must meet the requirements under which the airplane was type certified. On airplanes whose type certificate was filed with the country of manufacture prior to May 1, 1972 no sign may continue to be used if its Luminescence (brightness) decreases to below 100 microlamberts.

For an airplane for which the type certificate was filed with the country of manufacture on or after May 1, 1972, each passenger emergency exit marking and each locating sign must be manufactured to meet the interior emergency exit marking requirements under which the airplane was type certificated. On these airplanes, no sign may continue to be used if its luminescence (brightness) decreases to below 250 microlamberts.

Lighting for interior emergency exit markings. Each passenger-carrying airplane must have an emergency lighting system, independent of the main lighting system. However, sources of general cabin illumination may be common to both the emergency and the main lighting systems if the power supply to the emergency lighting system is independent of the power supply to the main lighting system. The emergency lighting system must:

(1) Illuminate each passenger exit marking and locating sign;

(2) Provide enough general lighting in the passenger cabin so that the average illumination when measured at 40-inch intervals at seat armrest height, on the centerline of the main passenger aisle, is at least 0.05 foot-candles; and

(3) For airplanes type certificated by the country of manufacture after January 1, 1958, include floor proximity emergency escape path marking which meets the requirements of Section 25.812(e) of the CASRs in effect December 1996.

Emergency light operation. Except for lights forming part of emergency lighting subsystems provided in compliance with Section 25.812(h) of the CASRs (as prescribed in Paragraph (h) of this section) that serve no more than one assist means, are independent of the airplane's main emergency lighting systems, and are automatically activated when the assist means is deployed, each light required by Paragraphs (c) and (h) of this section must comply with the following:

(1) Each light must:

(i) Be operable manually both from the flightcrew station and, for airplanes on which a flight attendant is required, from a point in the passenger compartment that is readily accessible to a normal flight attendant seat;

(ii) Have a means to prevent inadvertent operation of the manual controls; and

(iii) When armed or turned on at either station, remain lighted or become lighted upon interruption of the airplane's normal electric power.

(2) Each light must be armed or turned on during taxiing, takeoff, and landing. In showing compliance with this paragraph a transverse vertical separation of the fuselage need not be considered.

(3) Each light must provide the required level of illumination for at least 10 minutes at the critical ambient conditions after emergency landing.

(4) Each light must have a cockpit control device that has an "on," "off," and "armed" position.

(e) Emergency exit operating handles.

For a passenger-carrying airplane the location of each passenger emergency exit operating handle and instructions for opening the exit must be shown in accordance with the requirements under which the airplane was type certificated. On these airplanes, no operating handle or operating handle cover may continue to be used if its luminescence (brightness) decreases to below 100 microlamberts.

(f) Emergency exit access. Access to emergency exits must be provided as follows for each passenger-carrying transport category airplane:

(1) Each passage way between individual passenger areas, or leading to a Type I or Type II emergency exit, must be unobstructed and at least 20 inches wide.

(2) There must be enough space next to each Type I or Type II emergency exit to allow a crewmember to assist in the evacuation of passengers without reducing the unobstructed width of the passageway below that required in Paragraph (f)(1) of this section. However the Director may authorize deviation from this requirement for airplanes certificated prior to CASR 25 if he finds that special circumstances exist that provide an equivalent level of safety.

(3) There must be access from the main aisle to each Type III and Type IV exit. The access from the aisle to these exits must not be obstructed by seats, berths, or other protrusions in a manner that would reduce the effectiveness of the exit. In addition:

(i) For an airplane which was type certificated prior to CASR 25 the access must meet the requirements under which the airplane was type certificated.

(ii) The access for an airplane type certificated under CASR 25 must meet the requirements of Section 25.813(c) in effect December 1996.

(iii) Contrary provisions of this section notwithstanding, the DGAC may authorize deviation from the requirements of Paragraph (f)(3)(iii) of this section if it is determined that special circumstances make compliance impractical. Such special circumstances include, but are not limited to, the following conditions when they preclude achieving compliance with Section 25.813(c)(1)(i) or (ii) without a reduction in the total number of passenger seats; emergency exits located in close proximity to each other; fixed installations such as lavatories, galleys, etc.; permanently mounted bulkheads; an insufficient number of rows ahead of or behind the exit to enable compliance without a reduction in the seat row pitch of more than one inch; or an insufficient number of such rows to enable compliance without a reduction in the seat row pitch to less than 30 inches. A request for such grant of deviation must include credible reasons as to why literal compliance with Section 25.813(c)(1)(i) or (ii) is impractical and a description of the steps taken to achieve a level of safety as close to that intended by Section 25.813(c)(1)(i) or (ii) as is practical.

(4) If it is necessary to pass through a passageway between passenger compartments to reach any required emergency exit from any seat in the passenger cabin, the passageway must not be obstructed. However, curtains may be used if they allow free entry through the passageway.

(5) No door may be installed in any partition between passenger compartments.

(6) If it is necessary to pass through a doorway separating the passenger cabin from other areas to reach required emergency exit from any passenger seat, the door must have a means to latch it in open position, and the door must be latched open during each takeoff and landing. The latching means must be able to withstand the loads imposed upon it when the door is subjected to the ultimate inertia forces, relative to the surrounding structure, listed in Section 25.561(b) of the CASRs.

(g) Exterior exit markings. Each passenger emergency exit and the means of opening that exit from the outside must be marked on the outside of the airplane. There must be a 2-inch colored band outlining each passenger emergency exit on the side of the fuselage. Each outside marking, including the band, must be readily distinguishable from the surrounding fuselage area by contrast in color. The markings must comply with the following:

(1) If the reflectance of the darker color is 15 percent or less, the reflectance of the lighter color must be at least 45 percent.

(2) If the reflectance of the darker color is greater than 15 percent, at least a 30 percent difference between its reflectance and the reflectance of the lighter color must be provided.

(3) Exits that are not in the side of the fuselage must have the external means of opening and applicable instructions marked conspicuously in red or, if red is inconspicuous against the background color, in bright chrome yellow and, when the opening means for such an exit is located on only one side of the fuselage, a conspicuous marking to that effect must be provided on the other side. "Reflectance" is the ratio of the luminous flux reflected by a body to the luminous flux it receives.

(h) Exterior emergency lighting and escape route.

(1) Each passenger-carrying airplane must be equipped with exterior lighting that meets the following requirements.

The exterior emergency lighting requirements under which the airplane was type certified.

(2) Each passenger-carrying airplane must be equipped with a slip resistant escape route that meets the following requirements. The slip resistant escape route requirements under which the airplane type certified.

(i) Floor-level exits. Each floor-level door or exit in the side of the fuselage (other than those leading into a cargo or baggage compartment that is not accessible from the passenger cabin) that is 44 or more inches high and 20 or more inches wide, but not wider than 46 inches; each passenger ventral exit; and each tail cone exit, must meet the requirements of this section for floor-level emergency exits. However, the Director may grant a deviation from this paragraph if he finds that circumstances make full compliance impractical and that an acceptable level of safety has been achieved.

(j) Additional emergency exits. Approved emergency exits in the passenger compartments that are in excess of the minimum number of required emergency exits must meet all of the applicable provisions of this section except Paragraphs (f)(1), (2), and (3) of this section and must be readily accessible.

(d) On each large passenger-carrying turbojet-powered airplane, each ventral exit and tailcone exit must be:

(1) Designed and constructed so that it cannot be opened during flight; and

(2) Marked with a placard readable from a distance of 30 inches and installed at a conspicuous location near the means of opening the exit, stating that the exit has been designed and constructed so that it cannot be opened during flight.

(e) Portable lights. No person may operate a passenger-carrying airplane unless it is equipped with flashlight stowage provisions accessible from each flight attendant seat.

121.311 Seats, Safety Belts, Shoulder Harnesses, and Child Restraint Systems

(a) No person may operate an airplane unless there are available during the takeoff, enroute flight, and landing:

(1) An approved seat or berth for each person on board the airplane who has reached his second birthday; and

(2) An approved safety belt for separate use by each person on board the airplane who has reached his or her second birthday, except that two persons occupying a berth may share one approved safety belt and two persons occupying a multiple lounge or divan seat may share one approved safety belt during enroute flight only.

(b) Except as provided in this paragraph, each person on board an airplane operated under this part shall occupy an approved seat or berth with a separate safety belt properly secured about him or her during movement on the surface, for takeoff, and for landing. A safety belt provided for the occupant of a seat may not be used by more than one person who has reached his or her second birthday. Notwithstanding the preceding requirements, a child may:

(1) Be held by an adult who is occupying an approved seat or berth if that child is not yet two years old; or

(2) Notwithstanding any other requirement of the CASRs, occupy a child restraint system furnished by the certificate holder or one of the persons described in Paragraph (b)(2)(i) of this section, provided that:

(i) The child is accompanied by a parent, guardian, or attendant designated by the child's parent or guardian to care for the safety of the child during the flight; and

(ii) The certificate holder complies with the following requirements:

(A) The restraint system must be properly secured to an approved forward-facing seat or berth; and

(B) The child must be properly secured in the restraint system and must not exceed the specified weight limit for the restraint system.

(c) No certificate holder may prohibit a child, if requested by the child's parent, guardian, or designated attendant, from occupying a child restraint system furnished by the child's parent, guardian, or designated attendant, provided the child holds a ticket for an approved seat or berth, or such seat or berth is otherwise made available by the certificate holder for the child's use, and the requirements contained in Paragraphs (b)(2)(i) and (b)(2)(ii) of this section are met. This section does not prohibit the certificate holder from providing child restraint systems or, consistent with safe operating practices, determining the most appropriate passenger seat location for the child restraint system.

(d) Each sideward facing seat must comply with the applicable requirements of Section 25.785(c) of the CASRs.

(e) Except as provided in Paragraphs (e)(1) through (e)(3) of this section, no certificate holder may take off or land an airplane unless each passenger seat back is in the upright position. Each passenger shall comply with instructions given by a crewmember in compliance with this paragraph.

(1) This paragraph does not apply to seat backs placed in other than the upright position in compliance with Section 121.310(f)(3).

(2) This paragraph does not apply to seats on which cargo or persons who are unable to sit erect for a medical reason are carried in accordance with procedures in the certificate holder's manual if the seat back does not obstruct any passenger's access to the aisle or to any emergency exit.

(3) On airplanes with no flight attendant, the certificate holder may take off or land as long as the flightcrew instructs each passenger to place his or her seat back in the upright position for takeoff and landing.

(f) No person may operate a transport category airplane that was type certificated after January 1, 1958 unless it is equipped at each flight deck station with a combined safety belt and shoulder harness that meets the applicable requirements specified in Section 25.785 of the Civil Aviation Safety Regulations, effective December 1996 except that:

(1) Shoulder harnesses and combined safety belt and shoulder harnesses that were approved and installed before December 1996 , may continue to be used; and

(2) Safety belt and shoulder harness restraint systems may be designed to the inertia load factors established under the certification basis of the airplane.

(g) Each flight attendant must have a seat for takeoff and landing in the passenger compartment that meets the requirements of Section 25.785 of the CASRs, effective December 1996, except that-

(1) Combined safety belt and shoulder harnesses that were approved and installed before December 1996, may continue to be used; and

(2) Safety belt and shoulder harness restraint systems may be designed to the inertia load factors established under the certification basis of the airplane.

(3) The requirements of Section 25.785(h) do not apply to passenger seats occupied by flight attendants not required by Section 121.391.

(h) Each occupant of a seat equipped with a shoulder harness or with a combined safety belt and shoulder harness must have the shoulder harness or combined safety belt and shoulder harness properly secured about that occupant during takeoff and landing, except that a shoulder harness that is not combined with a safety belt may be unfastened if the occupant cannot perform the required duties with the shoulder harness fastened.

(i) At each unoccupied seat, the safety belt and shoulder harness, if installed, must be secured so as not to interfere with crewmembers in the performance of their duties or with the rapid egress of occupants in an emergency.

121.312 Materials for Compartment Interiors

(a) All materials in each compartment of a transport category airplane used by the crewmembers and passengers, must meet the requirements under which the airplane was type certified.

(h) Contrary provisions of this section notwithstanding, the Director may authorize deviation from the requirements of this section for specific components of the cabin interior that do not meet applicable flammability and smoke emission requirements, if the determination is made that special circumstances exist that make compliance impractical. A request for such deviation authority must include a thorough and accurate analysis of each component subject to Section 25.853, the steps being taken to achieve compliance, and, for the few components for which timely compliance will not be achieved, credible reasons for such noncompliance.

c) Seat cushions. Seat cushions, except those on flight crewmember seats, in each compartment occupied by crew or passengers, must comply with the requirements pertaining to seat cushions in Section 25.853 or the requirements under which the airplane was type certified.

21.313 Miscellaneous Equipment

No person may conduct any operation unless the following equipment is installed in the airplane:

a) A door between the passenger and pilot compartments, with a locking means to prevent passengers from opening it without the pilot's permission.

b) A key to each door that separates a passenger compartment from another compartment that has emergency exit provisions. The key must be readily available for each crewmember.

c) A placard on each door that is the means of access to a required passenger emergency exit, to indicate that it must be open during takeoff and landing.

d) A means for the crew, in an emergency to unlock each door that leads to a compartment that is normally accessible to passengers and that can be locked by passengers.

21.314 Cargo and Baggage Compartments

a) Each Class C or D compartment, as defined in Section 25.857 of Part 25 of the CASRs, greater than 200 cubic feet in volume must have ceiling and sidewall liner panels which are constructed of:
   (1) Glass fiber reinforced resin;
   (2) Materials which meet the test requirements of Part 25, Appendix F, Part III of the CASRs; or
   (3) In the case of installations approved prior to CASR 25 the liner material must be aluminium.

b) For compliance with this section, the term "liner" includes any design feature, such as a joint or fastener, which would affect the capability of the liner to safely contain a fire.

21.315 Cockpit Check Procedure

Each certificate holder shall provide an approved cockpit check procedure for each type of aircraft.

(b) The approved procedures must include each item necessary for flight crewmembers to check for safety before starting engines, taking off, or landing, and in engine and systems emergencies. The procedures must be designed so that a flight crewmember will not need to rely upon his memory for items to be checked.

(c) The approved procedures must be readily usable in the cockpit of each aircraft and the flight crew shall follow them when operating the aircraft.

121.316 Fuel Tanks

Each turbine-powered transport category airplane must meet the requirements under which the airplane was type certified.

121.317 Passenger Information

(a) No person may operate an airplane unless it is equipped with passenger information signs that meet the requirements of Section 25.791 of the CASRs.

(b) The "Fasten Seat Belt" sign shall be turned on during any movement on the surface, for each takeoff, for each landing, and at any other time considered necessary by the pilot in command.

(c) No person may operate an aircraft on a flight segment on which smoking is prohibited unless the "No Smoking" passenger information signs are lighted during the entire flight segment, or one or more "No Smoking" placards meeting the requirements of 25.1541 of the CASR are posted during the entire flight segment. If both the lighted signs and the placards are used, the signs must remain lighted during the entire flight segment.

(d) No person may operate a passenger-carrying airplane under this part unless at least one legible sign or placard that reads "Fasten Seat Belt While Seated" is visible from each passenger seat. These signs or placards need not meet the requirements of Paragraph (a) of this section.

(e) [Reserved]

(f) Each passenger required by Section 121.311(b) to occupy a seat or berth shall fasten his or her safety belt about him or her and keep it fastened while the "Fasten Seat Belt" sign is lighted.

(g) No person may smoke while a "No Smoking" sign is lighted or if "No Smoking" placards are posted, except that the pilot in command may authorize smoking on the flight deck except during airplane movement on the surface, during takeoff, or during landing.

(h) No person may smoke in any airplane lavatory.

(i) No person may tamper with, disable, or destroy any smoke detector installed in any airplane lavatory.

(j) On flight segments other than those described in Paragraph (c) of this section, the "No Smoking" sign must be turned on during any movement on the surface, for each takeoff, for each landing, and at any other time considered necessary by the pilot in command.

(k) Each passenger shall comply with instructions given him or her by a crewmember regarding compliance with Paragraphs (f), (g), (h).

121.318 Public Address System

No person may operate an airplane with a seating capacity of more than 19 passengers unless it is equipped with a public address system which:

(a) Is capable of operation independent of the crewmember interphone system required by Section 121.319, except for handsets, headsets, microphones, selector switches, and signalling devices;

(b) Is approved in accordance with Section 21.305 of the CASRs;

(c) Is accessible for immediate use from each of two flight crewmember stations in the pilot compartment;

(d) For each required floor-level passenger emergency exit which has an adjacent flight attendant seat, has a microphone which is readily accessible to the seated flight attendant, except that one microphone may serve more than one exit, provided the proximity of the exits allows unassisted verbal communication between seated flight attendants;

(e) Is capable of operation within 10 seconds by a flight attendant at each of those stations in the passenger compartment from which its use is accessible;

(f) Is audible at all passenger seats, lavatories, and flight attendant seats and work stations; and

(g) For transport category airplanes manufactured on or after December 1996, meets the requirements of Section 25.1423 of the CASRs.

121.319 Crewmember Interphone System

(a) No person may operate an airplane with a seating capacity of more than 19 passengers unless the airplane is equipped with a crewmember interphone system that:

(1) [Reserved]

(2) Is capable of operation independent of the public address system required by Section 121.318(a) except for handsets, headsets, microphones, selector switches, and signaling devices; and

(3) Meets the requirements of Paragraph (b) of this section.

(b) The crewmember interphone system required by Paragraph (a) of this section must be approved in accordance with Section 21.305 of the CASRs and meet the following requirements:

(1) It must provide a means of two-way communication between the pilot compartment and:

(i) Each passenger compartment; and

(ii) Each galley located on other than the main passenger deck level.

(2) It must be accessible for immediate use from each of two flight crewmember stations in the pilot compartment;

(3) It must be accessible for use from at least one normal flight attendant station in each passenger compartment;

(4) It must be capable of operation within 10 seconds by a flight attendant at those stations in each passenger compartment from which its use is accessible; and

(5) For large turbojet powered airplanes:

(i) It must be accessible for use at enough flight attendant stations so that all floor-level emergency exits (or entryways to those exits in the case of

exits located within galleys) in each passenger compartment are observable from one or more of those stations so equipped;

(ii) It must have an alerting system incorporating aural or visual signals for use by flight crewmembers to alert flight attendants and for use by flight attendants to alert flight crewmembers;

(iii) The alerting system required by Paragraph (b)(5)(ii) of this section must have a means for the recipient of a call to determine whether it is a normal call or an emergency call; and

(iv) When the airplane is on the ground, it must provide a means of two-way communication between ground personnel and either of at least two flight crewmembers in the pilot compartment. The interphone system station for use by ground personnel must be so located that personnel using the system may avoid visible detection from within the airplane.

121.321 [Reserved]

121.323 Instruments and Equipment for Operations at Night

No person may operate an airplane at night unless it is equipped with the following instruments and equipment in addition to those required by Sections 121.305 through 121.321:

(a) Position lights.

(b) An anti-collision light.

(c) Two landing lights.

(d) Instrument lights providing enough light to make each required instrument, switch, or similar instrument, easily readable and installed so that the direct rays are shielded from the flight crewmembers' eyes and that no objectionable reflections are visible to them. There must be a means of controlling the intensity of illumination unless it is shown that nondimming instrument lights are satisfactory.

(e) An airspeed indicating system with heated pitot tube or equivalent means for preventing malfunctioning due to icing.

(f) A sensitive altimeter.

121.325 Instruments and Equipment for Operating under IFR

No person may operate an airplane under IFR unless it is equipped with the following instruments and equipment, in addition to those required by Sections 121.305 through 121.321:

(a) An airspeed indicating system with heated pitot tube or equivalent means for preventing malfunctioning due to icing.

(b) A sensitive altimeter.

(c) Instrument lights providing enough light to make each required instrument, switch, or similar instrument, easily readable and so installed that the direct rays are shielded from the flight crewmembers' eyes and that no objectionable reflections are visible to them, and a means of controlling the intensity of illumination unless it is shown that nondimming instrument lights are satisfactory.

121.327 Supplemental Oxygen: Reciprocating Engine Powered Airplanes

(a) General. Except where supplemental oxygen is provided in accordance with Section 121.331, no person may operate an airplane unless supplemental oxygen is furnished and used as set forth in Paragraphs (b) and (c) of this section. The amount of supplemental oxygen required for a particular operation is determined on the basis of flight altitudes and flight duration, consistent with the operation procedures established for each operation and route.

(b) Crewmembers.

(1) At cabin pressure altitudes above 10,000 feet up to and including 12,000 feet, oxygen must be provided for, and used by, each member of the flight crew on flight deck duty, and must be provided for other crewmembers, for that part of the flight at those altitudes that is of more than 30 minutes duration.

(2) At cabin pressure altitudes above 12,000 feet, oxygen must be provided for, and used by, each member of the flight crew on flight deck duty, and must be provided for other crewmembers, during the entire flight time at those altitudes.

(3) When a flight crewmember is required to use oxygen, he must use it continuously, except when necessary to remove the oxygen mask or other dispenser in connection with his regular duties. Standby crewmembers who are on call or are definitely going to have flight deck duty before completing the flight must be provided with an amount of supplemental oxygen equal to that provided for crewmembers on duty other than on flight deck duty. If a standby crewmember is not on call and will not be on flight deck duty during the remainder of the flight, he is considered to be a passenger for the purposes of supplemental oxygen requirements.

(c) Passengers. Each certificate holder shall provide a supply of oxygen, approved for passenger safety, in accordance with the following:

(1) For flights of more than 30 minutes duration at cabin pressure altitudes above 8,000 feet up to and including 14,000 feet, enough oxygen for 30 minutes for 10 percent of the passengers.

(2) For flights at cabin pressure altitudes above 14,000 feet up to and including 15,000 feet, enough oxygen for that part of the flight at those altitudes for 30 percent of the passengers.

(3) For flights at cabin pressure altitudes above 15,000 feet, enough oxygen for each passenger carried during the entire flight at those altitudes.

(d) For the purposes of this subpart "cabin pressure altitude" means the pressure altitude corresponding with the pressure in the cabin of the airplane, and "flight altitude" means the altitude above sea level at which the airplane is operated. For airplanes without pressurized cabins, "cabin pressure altitude" and "flight altitude" mean the same thing.

121.329 Supplemental Oxygen for Sustenance: Turbine engine Powered Airplanes

(a) General. When operating a turbine engine powered airplane, each certificate holder shall equip the airplane with sustaining oxygen and dispensing equipment for use as set forth in this section:

(1) The amount of oxygen provided must be at least the quantity necessary to comply with Paragraphs (b) and (c) of this section.

(2) The amount of sustaining and first aid oxygen required for a particular operation to comply with the rules in this part is determined on the basis of cabin pressure altitudes and flight duration, consistent with the operating procedures established for each operation and route.

(3) The requirements for airplanes with pressurized cabins are determined on the basis of cabin pressure altitude and the assumption that a cabin pressurization failure will occur at the altitude or point of flight that is most critical from the standpoint of oxygen need, and that after the failure the airplane will descend in accordance with the emergency procedures specified in the Airplane Flight Manual, without exceeding its operating limitations, to a flight altitude that will allow successful termination of the flight.

(4) Following the failure, the cabin pressure altitude is considered to be the same as the flight altitude unless it is shown that no probable failure of the cabin or pressurization equipment will result in a cabin pressure altitude equal to the flight altitude. Under those circumstances, the maximum cabin pressure altitude attained may be used as a basis for certification or determination of oxygen supply, or both.

(b) Crewmembers. Each certificate holder shall provide a supply of oxygen for crewmembers in accordance with the following:

(1) At cabin pressure altitudes above 10,000 feet, up to and including 12,000 feet, oxygen must be provided for and used by each member of the flight crew on flight deck duty and must be provided for other crewmembers for that part of the flight at those altitudes that is of more than 30 minutes duration.

(2) At cabin pressure altitudes above 12,000 feet, oxygen must be provided for, and used by, each member of the flight crew on flight deck duty, and must be provided for other crewmembers during the entire flight at those altitudes.

(3) When a flight crewmember is required to use oxygen, he must use it continuously except when necessary to remove the oxygen mask or other dispenser in connection with his regular duties. Standby crewmembers who are on call or are definitely going to have flight deck duty before completing the flight must be provided with an amount of supplemental oxygen equal to that provided for crewmembers on duty other than on flight duty. If a standby crewmember is not on call and will not be on flight deck duty during the remainder of the flight, he is considered to be a passenger for the purposes of supplemental oxygen requirements.

(c) Passengers. Each certificate holder shall provide a supply of oxygen for passengers in accordance with the following:

(1) For flights at cabin pressure altitudes above 10,000 feet, up to and including 14,000 feet, enough oxygen for that part of the flight at those altitudes that is of more than 30 minutes duration, for 10 percent of the passengers.

(2) For flights at cabin pressure altitudes above 14,000 feet, up to and including 15,000 feet, enough oxygen for that part of the flight at those altitudes for 30 percent of the passengers.

(3) For flights at cabin pressure altitudes above 15,000 feet, enough oxygen for each passenger carried during the entire flight at those altitudes.

121.331 Supplemental Oxygen Requirement for Pressurized Cabin Airplanes: Reciprocating Engine Powered Airplanes

When operating a reciprocating-engine powered airplane pressurized cabin, each certificate holder shall equip the airplane to comply with Paragraphs (b) through (d) of this section in the event of cabin pressurization failure.

For crewmembers. When operating at flight altitudes above 10,000 feet, the certificate holder shall provide enough oxygen for each crewmember for the entire flight at those altitudes and not less than a two hour supply for each flight crewmember on flight deck duty. The required two hours supply is that quantity of oxygen necessary for a constant rate of descent from the airplane's maximum certificated operating altitude to 10,000 feet in ten minutes and followed by 110 minutes at 10,000 feet. The oxygen required by Section 121.337 may be considered in determining the supplemental breathing supply required for flight crewmembers on flight deck duty in the event of cabin pressurization failure.

For passengers. When operating at flight altitudes above 8,000 feet, the certificate holder shall provide oxygen as follows:

(1) When an airplane is not flown at a flight altitude above flight level 250, enough oxygen for 30 minutes for 10 percent of the passengers, if at any point along the route to be flown the airplane can safely descend to a flight altitude of 14,000 feet or less within four minutes.

(2) If the airplane cannot descend to a flight altitude of 14,000 feet or less within four minutes, the following supply of oxygen must be provided:

(i) For that part of the flight that is more than four minutes duration at flight altitudes above 15,000 feet, the supply required by Section 121.327(c)(3).

(ii) For that part of the flight at flight altitudes above 14,000 feet, up to and including 15,000 feet, the supply required by Section 121.327(c)(2).

(iii) For flight at flight altitudes above 8,000 feet up to and including 14,000 feet, enough oxygen for 30 minutes for 10 percent of the passengers.

(3) When an airplane is flown at a flight altitude above flight level 250, enough oxygen for 30 minutes for 10 percent of the passengers for the entire flight (including emergency descent) above 8,000 feet, up to and including 14,000 feet, and to comply with Section 121.327(c)(2) and (3) for flight above 14,000 feet.

For the purposes of this section it is assumed that the cabin pressurization failure occurs at a time during flight that is critical from the standpoint of oxygen need and that after the failure the airplane will descend, without exceeding its normal operating limitations, to flight altitudes allowing safe flight with respect to terrain clearance.

121.333 Supplemental Oxygen for Emergency Descent and for First Aid; Turbine Engine Powered Airplanes with Pressurized Cabins

General. When operating a turbine engine powered airplane with a pressurized cabin, the certificate holder shall furnish oxygen and dispensing equipment to comply with Paragraphs (b) through (e) of this section in the event of cabin pressurization failure.

b) Crewmembers. When operating at flight altitudes above 10,000 feet, the certificate holder shall supply enough oxygen to comply with Section 121.329, but not less than a two hour supply for each flight crewmember on flight deck duty. The required two hours supply is that quantity of oxygen necessary for a constant rate of descent from the airplane's maximum certificated operating altitude to 10,000 feet in ten minutes and followed by 110 minutes at 10,000 feet. The oxygen required in the event of cabin pressurization failure by Section 121.337 may be included in determining the supply required for flight crewmembers on flight deck duty.

c) Use of oxygen masks by flight crewmembers.

(1) When operating at flight altitudes above flight level 250, each flight crewmember on flight deck duty must be provided with an oxygen mask so designed that it can be rapidly placed on his face from its ready position, properly secured, sealed, and supplying oxygen upon demand; and so designed that after being placed on the face it does not prevent immediate communication between the flight crewmember and other crewmembers over the airplane intercommunication system. When it is not being used at flight altitudes above flight level 250, the oxygen mask must be kept in condition for ready use and located so as to be within the immediate reach of the flight crewmember while at his duty station.

(2) When operating at flight altitudes above flight level 250, one pilot at the controls of the airplane shall at all times wear and use an oxygen mask secured, sealed, and supplying oxygen, except that the one pilot need not wear and use an oxygen mask while at or below flight level 410 if each flight crewmember on flight deck duty has a quick donning type of oxygen mask that the certificate holder has shown can be placed on the face from its ready position, properly secured, sealed, and supplying oxygen upon demand, with one hand and within five seconds. The certificate holder shall also show that the mask can be put on without disturbing eye glasses and without delaying the flight crewmember from proceeding with his assigned emergency duties. The oxygen mask after being put on must not prevent immediate communication between the flight crewmember and other crewmembers over the airplane intercommunication system.

(3) Notwithstanding Paragraph (c)(2) of this section, if for any reason at any time it is necessary for one pilot to leave his station at the controls of the airplane when operating at flight altitudes above flight level 250, the remaining pilot at the controls shall put on and use his oxygen mask until the other pilot has returned to his duty station.

(4) Before the takeoff of a flight, each flight crewmember shall personally preflight his oxygen equipment to ensure that the oxygen mask is functioning, fitted properly, and connected to appropriate supply terminals, and that the oxygen supply and pressure are adequate for use.

d) Use of portable oxygen equipment by cabin attendants. Each attendant shall, during flight above flight level 250 flight altitude, carry portable oxygen equipment with at least a 15 minute supply of oxygen unless it is shown that enough portable oxygen units with masks or spare outlets and masks are distributed throughout the cabin to ensure immediate availability of oxygen to each cabin attendant, regardless of his location at the time of cabin depressurization.

e) Passenger cabin occupants. When the airplane is operating at flight altitudes above 10,000 feet, the following supply of oxygen must be provided for the use of passenger cabin occupants:

(1) When an airplane certificated to operate at flight altitudes up to and including flight level 250, can at any point along the route to be flown, descend safely to a flight altitude of 14,000 feet or less within four minutes, oxygen must be available at the rate prescribed by this part for a 30 minute period for at least 10 percent of the passenger cabin occupants.

(2) When an airplane is operated at flight altitudes up to and including flight level 250 and cannot descend safely to a flight altitude of 14,000 feet within four minutes, or when an airplane is operated at flight altitudes above flight level 250, oxygen must be available at the rate prescribed by this part for not less than 10 percent of the passenger cabin occupants for the entire flight after cabin depressurization, at cabin pressure altitudes above 10,000 feet up to and including 14,000 feet and, as applicable, to allow compliance with Section 121.329(c)(2) and (3), except that there must be not less than a 10 minute supply for the passenger cabin occupants.

(3) For first aid treatment of occupants who for physiological reasons might require undiluted oxygen following descent from cabin pressure altitudes above flight level 250, a supply of oxygen in accordance with the requirements of Section 25.1443(d) must be provided for two percent of the occupants for the entire flight after cabin depressurization at cabin pressure altitudes above 8,000 feet, but in no case to less than one person. An appropriate number of acceptable dispensing units, but in no case less than two, must be provided, with a means for the cabin attendants to use this supply.

) Passenger briefing. Before flight is conducted above flight level 250, a crewmember shall instruct the passengers on the necessity of using oxygen in the event of cabin depressurization and shall point out to them the location and demonstrate the use of the oxygen dispensing equipment.

21.335 Oxygen Equipment Standards

) Reciprocating-engine powered airplanes. The oxygen apparatus, the minimum rates of oxygen flow, and the supply of oxygen necessary to comply with Section 121.327 must meet the standards established by the DGAC, except that if the certificate holder shows full compliance with those standards to be impracticable, the Director may authorize any change in those standards that he finds will provide an equivalent level of safety.

) Turbine engine powered airplanes. The oxygen apparatus, the minimum rate of oxygen flow, and the supply of oxygen necessary to comply with Sections 121.329 and 121.333 must meet the standards established by the DGAC, except that if the certificate holder shows full compliance with those standards to be impracticable, the Director may authorize any changes in those standards that he finds will provide an equivalent level of safety.

21.337 Protective Breathing Equipment

) The certificate holder shall furnish approved protective breathing equipment (PBE) meeting the equipment, breathing gas, and communication requirements contained in paragraph (b) of this section.

(b) No person may operate an airplane unless protective breathing equipment meeting the requirements of this section is provided as follows:

(1) General. The equipment must protect the flightcrew from the effects of smoke, carbon dioxide or other harmful gases or an oxygen deficient environment caused by other than an airplane depressurization while on flight deck duty and must protect crewmembers from the above effects while combating fires on board the airplane.

(2) The equipment must be inspected in accordance with inspection periods established by the equipment manufacturer to ensure its condition for continued serviceability and immediate readiness to perform its intended emergency purposes. The inspection periods may be changed upon a showing by the certificate holder that the changes would provide an equivalent level of safety.

(3) That part of the equipment protecting the eyes must not impair the wearer's vision to the extent that a crewmember's duties cannot be accomplished and must allow corrective glasses to be worn without impairment of vision or loss of the protection required by paragraph (b)(1) of this section.

(4) The equipment, while in use, must allow the flightcrew to communicate using the airplane radio equipment and to communicate by interphone with each other while at their assigned duty stations. The equipment, while in use, must also allow crewmember interphone communications between each of two flight crewmember stations in the pilot compartment and at least one normal flight attendant station in each passenger compartment.

(5) The equipment, while in use, must allow any crewmember to use the airplane interphone system at any of the flight attendant stations referred to in paragraph (b)(4) of this section.

(6) The equipment may also be used to meet the supplemental oxygen requirements of this part provided it meets the oxygen equipment standards of CASR 121.335 of this part.

(7) Protective breathing gas duration and supply system equipment requirements are as follows:

(i) The equipment must supply breathing gas for 15 minutes at a pressure altitude of 8,000 feet for the following:

(A) Flight crewmembers while performing flight deck duties; and

(B) Crewmembers while combating an in-flight fire.

(ii) The breathing gas system must be free from hazards in itself, in its method of operation, and in its effect upon other components. (iii) For breathing gas systems other than chemical oxygen generators, there must be a means to allow the crew to readily determine, during the equipment preflight described in paragraph (c) of this section, that the gas supply is fully charged.

(iii) For breathing gas systems other than chemical oxygen generators, there must be a means to allow the crew to readily determine, during flight, the quantity of breathing gas available in each source of supply.

(iv) For each chemical oxygen generator, the supply system equipment must meet the requirements of CASR 25.1450(b) and (c) of this chapter.

(8) Smoke and fume protection. Protective breathing equipment with a fixed or portable breathing gas supply meeting the requirements of this section must be conveniently located on the flight deck and be easily accessible for

immediate use by each required flight crewmember at his or her assigned duty station.

(9) Fire combating, protective breathing equipment with a portable breathing gas supply meeting the requirements of this section must be easily accessible and conveniently located for immediate use by crewmembers in combating fires as follows:

(i) One PBE is required for each hand fire extinguisher located for use in a galley

(ii) One on the flight deck, except that the DGAC may authorize another location for this PBE if special circumstances exist that make compliance impractical and the proposed deviation would provide an equivalent level of safety.

(iii) In each passenger compartment, one for each hand fire extinguisher, to be located within 3 feet of each required hand fire extinguisher, except that the DGAC may authorize a deviation allowing locations of PBE more than 3 feet from required hand fire extinguisher locations if special circumstances exist that make compliance impractical and if the proposed deviation provides an equivalent level of safety.

(iv) One for use in each Class A, B, and E cargo compartment (as defined in CASR 25.857 of this chapter) that is accessible to crewmembers in the compartment during flight.

(v) In each passenger compartment, one located within 3 feet of each hand fire extinguisher required by CASR 121.309 of this part, except that the DGAC may authorize a deviation allowing locations of PBE more than 3 feet from required hand fire extinguisher locations if special circumstances exist that make compliance impractical and the proposed deviation provides an equivalent level of safety.

) Equipment preflight.

(1) Before each flight, each item of PBE at flight crewmember duty stations must be checked by the flight crewmember who will use the equipment to ensure that the equipment:

(i) For other than chemical oxygen generator systems, is functioning, is serviceable, fits properly (unless a universal fit type), and is connected to supply terminals and that the breathing gas supply and pressure are adequate for use; and

(ii) For chemical oxygen generator systems, is serviceable and fits properly (unless a universal fit type).

(2) Each item of PBE located at other than a flight crewmember duty station must be checked by a designated crewmember to ensure that each is properly stowed and serviceable, and, for other than chemical oxygen generator systems, the breathing gas supply is fully charged. Each certificate holder, in its operations manual, must designate at least one crewmember to perform those checks before he or she takes off in that airplane for his or her first flight of the day.

121.339 Emergency Equipment for Extended Overwater Operations

Except as noted in Paragraph (5), below, no person may operate an airplane in extended overwater operations without having on the airplane the following equipment:

(1) A life preserver equipped with an approved survivor locator light, for each occupant of the airplane.

(2) Enough life rafts (each equipped with an approved survivor locator light) of a rated capacity and buoyancy to accommodate the occupants of the airplane. Unless excess rafts of enough capacity are provided, the buoyancy and seating capacity of the rafts must accommodate all occupants of the airplane in the event of a loss of one raft of the largest rated capacity.

(3) At least one pyrotechnic signalling device for each life raft.

(4) An approved survival type emergency locator transmitter. Batteries used in this transmitter must be replaced (or recharged, if the battery is rechargeable) when the transmitter has been in use for more than 1 cumulative hour, or when 50 percent of their useful life (or for rechargeable batteries, 50 percent of their useful life of charge) has expired, as established by the transmitter manufacturer under its approval. The new expiration date for replacing (or recharging) the battery must be legibly marked on the outside of the transmitter. The battery useful life (or useful life of charge) requirements of this Paragraph do not apply to batteries (such as water activated batteries) that are essentially unaffected during probable storage intervals.

(5) By amending the operations specifications of the certificate holder, the Director may authorize less than all the items of equipment listed above be carried for all overwater operations. Or, after application by the certificate holder, the Director may issue a Letter of Deviation Authority granting relief from carrying specific items of equipment listed above for a specific extended overwater operations.

) The required life rafts, life preservers, and survival type emergency locator transmitter must be easily accessible in the event of a ditching without appreciable time for preparatory procedures. This equipment must be installed in conspicuously marked, approved locations.

) A survival kit, appropriately equipped for the route to be flown, must be attached to each required life raft.

1.340 Emergency Flotation Means

) Except as provided in Paragraph (b) of this section, no person may operate an airplane in any overwater operation unless it is equipped with life preservers in accordance with Section 121.339(a)(1) or with an approved flotation means for each occupant. This means must be within easy reach of each seated occupant and must be readily removable from the airplane.

Upon application by the air carrier the Director may approve the operation of an airplane over water without the life preservers or flotation means required by Paragraph (a) of this section, if the air carrier or commercial operator shows that the water over which the airplane is to be operated is not of such size and depth that life preservers or flotation means would be required for the survival of its occupants in the event the flight terminates in that water.

121.341 Equipment for Operation in Icing Conditions

(a) Unless an airplane is certificated under the transport category airworthiness requirements relating to ice protection, no person may operate an airplane in icing conditions unless it is equipped with means for the prevention or removal of ice on windshields, wings, empennage, propellers, and other parts of the airplane where ice formation will adversely affect the safety of the airplane.

(b) No person may operate an airplane in icing conditions at night unless means are provided for illuminating or otherwise determining the formation of ice on the parts of the wings that are critical from the standpoint of ice accumulation. Any illuminating that is used must be of a type that will not cause glare or reflection that would handicap crewmembers in the performance of their duties.

(c) If current weather reports and briefing information relied upon by the pilot in command indicate that the forecast icing condition that would otherwise prohibit the flight will not be encountered during the flight because of changed weather conditions since the forecast.

121.342 Pitot Heat Indication Systems

No Person may operate a transport category airplane that is equipped with a flight nstrument pitot heating system unless the airplane is also equipped with an operable pitot heat indication system that complies with Section 25.1326 of the CASRs.

121.343 Flight Recorders

No certificate holder may operate a large turbine engine power or large pressurized airplane with four reciprocating engines unless an approved Flight Data Recorders is nstalled in an airplane engaged in international air navigation. Flight Recorders comprise wo systems, i.e. a flight data recorders and a cockpit voice recorder. Flight data ecorders are classified as Type 1, Type II and Type IIA depending upon the number of arameters to be recorded and the duration required for retention of the recorded nformation.

a) Flight data recorder (FDR)

(1) General requirements

(i) The recorder is to record continuously during flight time.

(ii) The recorder container is to:

(A) be painted a distinctive orange or yellow colour;

(B) carry reflective material to facilitate its location., and

(C) have securely attached an automatically activated underwater locating device.

(iii) The recorder is to be installed so that:

(A) the probability of damage to the recording is minimized. To meet this requirement it should be located as far aft as practicable. In the case of pressurized aeroplanes it should be located in the vicinity of the rear pressure bulkhead;

(B). it receives its electrical power from a bus that provides the maximum reliability for operation of the recorder without jeopardizing service to essential or emergency loads; and

(C) there is an aural or visual means for preflight checking that the recorder is operating properly..

(2) Parameters to be recorded

(i) Type I flight data recorder. This recorder will be capable of recording, as appropriate to the aeroplane, at least the 32 parameters in Table D-1 Annex 6, Part I. However, other parameters may be substituted with due regard to type and the characteristics of the recording equipment.

(ii) Types II and IIA flight data recorders. These recorders will be capable of recording, as appropriate to the aeroplane, at least the first 15 parameters in Table D-1 Annex 6, Part I. However, other parameters may be substituted with due regard to the aeroplane type and the characteristics of the recording equipment.

(3) Additional information

(i) A Type IIA recorder, in addition to a 30-minute recording duration, is to retain sufficient information from the preceding take-off for calibration purposes.

(ii) The measurement range, recording interval and accuracy of parameters on installed equipment is usually verified by methods approved by the appropriate certificating authority.

(iii) The manufacturer usually provides the national certificating authority with the following information in respect of the flight data recorder:

(A) manufacturer's operating instructions, equipment limitations and installation procedures;

(B) parameter origin or source and equations which relate counts to units of measurement; and

(C) manufacturer's test reports.

(iv) The operator usually supplies position error curves for pitot-static parameters, at various angles of attack and side slip, for the calibration and read-out of the recordings.

21.345 Radio Equipment

a) No person may operate an airplane unless it is equipped with radio equipment required for the kind of operation being conducted.

b) Where two independent (separate and complete) radio systems are required by Sections 121.347 and 121.349, each system must have an independent antenna installation except that, where rigidly supported nonwire antennas or other antenna installations of equivalent reliability are used, only one antenna is required.

21.347 Radio Equipment for Operations under VFR over Routes Navigated by Pilotage

No person may operate an airplane under VFR over routes that can be navigated by pilotage, unless it is equipped with the radio equipment necessary under normal operating conditions to fulfill the following:

a) Communicate with at least one appropriate ground station from any point on the route.

b) Communicate with appropriate traffic control facilities.

c) Receive meteorological information from any point enroute by either of two independent systems. One of the means provided to comply with this section may be used to comply with Subsections (a) and (b) of this section.

121.349 Radio Equipment for Operations under VFR over Routes not Navigated by Pilotage or for Operations under IFR

a) No person may operate an airplane under VFR over routes that cannot be navigated by pilotage or for operations conducted under IFR unless the airplane is equipped with that radio equipment necessary under normal operating conditions to fulfill the functions specified in Section 121.347(a) and to receive satisfactorily by either of two independent systems radio navigational signals from all primary enroute and approach navigational facilities intended to be used. However, only one marker beacon receiver providing visual and aural signals and one ILS receiver need be provided. Equipment provided to receive signals enroute may be used to receive signals on approach, if it is capable of receiving both signals.

b) In the case of operation over routes on which navigation is based on low frequency radio range or automatic direction finding, only one low frequency radio range or ADF receiver need be installed if the airplane is equipped with two VOR receivers, and VOR navigational aids are so located and the airplane is so fuelled that, in the case of failure of the low frequency radio range receiver or ADF receiver, the flight may proceed safely to a suitable airport, by means of VOR aids, and complete an instrument approach by use of the remaining airplane radio system.

c) Whenever VOR navigational receivers are required by Paragraph (a) or (b) of this section, at least one approved distance measuring equipment unit (DME) capable of receiving and indicating distance information from VORTAC facilities must be installed on each airplane when operated in Indonesia.

d) If the distance measuring equipment (DME) becomes inoperative enroute, the pilot shall notify ATC of that failure as soon as it occurs.

121.351 Radio Equipment for Extended Overwater Operations and for Certain other Preparations

a) No person may conduct an extended overwater operation unless the airplane is equipped with the radio equipment necessary to comply with Section 121.349 and an independent system that complies with Section 121.347(a).

b) No flag or Domestic or supplemental air carrier may conduct an operation without the equipment specified in Paragraph (a) of this section, if the Director finds that equipment to be necessary for search and rescue operations because of the nature of the terrain to be flown over.

121.353 Emergency Equipment for Operations over Uninhabited Terrain Areas: Flag, Domestic and Supplemental Operators

Unless the airplane has the following equipment, no person may conduct a flag or supplemental operation over an uninhabited area or any other area that (in its operations

specifications) the Director specifies required equipment for search and rescue in case of an emergency:

(a) Suitable pyrotechnic signaling devices.

(b) An approved survival type emergency locator transmitter. Batteries used in this transmitter must be replaced (or recharged, if the battery is rechargeable) when the transmitter has been in use for more than 1 cumulative hour, or when 50 percent of their useful life (or for rechargeable batteries, 50 percent of their useful life of charge) has expired, as established by the transmitter manufacturer under its approval. The new expiration date for replacing (or recharging) the battery must be legibly marked on the outside of the transmitter. The battery useful life (or useful life of charge) requirements of this paragraph do not apply to batteries (such as water activated batteries) that are essentially unaffected during probable storage intervals.

(c) Enough survival kits, appropriately equipped for the route to be flown for the number of occupants of the airplane.

121.355 Equipment for Operations on which Specialized Means of Navigation are Used

No certificate holder may conduct an operation:

(a) Using Doppler Radar or an Inertial Navigation System or any other specialized means of navigation within or outside Indonesian airspace unless such systems have been approved in accordance with Procedures acceptable to the DGAC.

(b) Using Doppler Radar or an Inertial Navigation System within Indonesian airspace, or any and it shows that an adequate airborne system is provided for the specialized navigation authorized for the particular operation.

121.356 [Reserved]

121.357 Airborne Weather Radar Equipment Requirements

(a) No person may operate any transport category unless approved airborne weather radar equipment has been installed in the airplane.

(b) [Reserved]

(c) Each person operating an airplane required to have approved airborne weather radar equipment installed shall, when using it under this part, operate it in accordance with the following:

(1) Dispatch. No person may dispatch an airplane (or begin the flight of an airplane in the case of a certificate holder that does not use a dispatch system) under IFR or night VFR conditions when current weather reports indicate that thunderstorms, or other potentially hazardous weather conditions that can be detected with airborne weather radar, may reasonably be expected along the route to be flown, unless the airborne weather radar equipment is in satisfactory operating condition.

(2) If the airborne weather radar becomes inoperative enroute, the airplane must be operated in accordance with the approved instructions and procedures specified in the operations manual for such an event.

(d) This section does not apply to airplanes used solely during any training, test, or ferry flight.

(e) Notwithstanding any other provision of the CASRs, an alternate electrical power supply is not required for airborne weather radar equipment.

121.358 Global Positioning System (GPS)

After October 1, 1995 all aircraft must be fitted with GPS as a secondary navigation aid except those aircraft already fitted with INS, ONS, IRS or FMS.

121.359 Cockpit Voice Recorders

(a) No certificate holder may operate a large turbine engine powered airplane or a large pressurized airplane with four reciprocating engines unless an approved cockpit voice recorder is installed in that airplane and is operated continuously from the start of the use of the checklist (before starting engines for the purpose of flight), to completion of the final checklist at the termination of the flight.

(b) [Reserved]

(c) The cockpit voice recorder required by Paragraph (a) of this section must meet the following application standards:

(1) The requirements of Part 25 of the CASRs.

(2) After April 1, 1999, each recorder container must:

(i) Be either bright orange or bright yellow;

(ii) Have reflective tape affixed to the external surface to facilitate its location under water; and

(iii) Have an approved underwater locating device on or adjacent to the container which is secured in such a manner that they are not likely to be separated during crash impact, unless the cockpit voice recorder, and the flight recorder required by Section 121.343, are installed adjacent to each other in such a manner that they are not likely to be separated during crash impact.

(d) In complying with this section, an approved cockpit voice recorder having an erasure feature may be used, so that at any time during the operation of the recorder, information recorded more than 30 minutes earlier may be erased or otherwise obliterated.

(e) For those aircraft equipped to record the uninterrupted audio signals received by a boom or a mask microphone, the flight crewmembers are required to use the boom microphone below 18,000 feet mean sea level. No person may operate a large turbine engine powered airplane or a large pressurized airplane with four reciprocating engines manufactured after October 11, 1991, or on which a cockpit voice recorder has been installed after October 11, 1991, unless it is equipped to record the uninterrupted audio signal received by a boom or mask microphone in accordance with Section 25.1457(c)(5) of the CASRs.

(f) In the event of an accident or occurrence requiring immediate notification of the DGAC, which results in the termination of the flight, the certificate holder shall keep the recorded information for at least 60 days or, if requested by the Director, for a longer period. Information obtained from the record is used to assist in determining the cause of accidents or occurrences in connection with investigations under the CASRs

121.360 Ground Proximity Warning/Glide Slope Deviation Alerting System (GPWS)

(a) No person nor certificate holder may operate a turbine-powered airplane unless it is equipped with a ground proximity warning system (GPWS). This requirement does not apply if:
   (1) The aircraft has a type certificate before 1 January 1980;
   (2) The Flight uses a Visual Flight Rules when take off and landing in the mountainous area;
   (3) The aircraft flies in the Indonesian territory, but when the aircraft flies to the foreign airport the operator must have an authorization from the authority of the foreign airport that authorized the operator to fly without a GPWS;
   (4) The operator has Standard Operating Procedures for operations an aircraft without a GPWS.

(b) The ground proximity warning system required by this section shall provide as a minimum warnings of the following circumstances:
   (1) Excessive descent rate;
   (2) Excessive terrain closure rate;
   (3) Excessive altitude loss after take-off or go-around;
   (4) Unsafe terrain clearance while not in landing configuration:
      (i) gear not locked down;
      (ii) flaps not in landing position.
   (5) Excessive descent below the instrument glide path.

(c) For the ground proximity warning system required by this section, the Airplane Flight Manual shall contain:
   (1) Appropriate procedures for:
      (i) The use of the equipment;
      (ii) Proper flight crew action with respect to the equipment;
      (iii) Deactivation for planned abnormal and emergency conditions;
      (iv) Inhibition of Mode 4 warnings based on flaps being in other than the landing configuration if the system incorporates a Mode 4 flap warning inhibition control; and
   (2) An outline of all input sources that must be operating.

(d) No person may deactivate a ground proximity warning system required by this section except in accordance with the procedures contained in the Airplane Flight Manual.

(e) Whenever a ground proximity warning system required by this section is deactivated, an entry shall be made in the airplane maintenance record that includes the date and time of deactivation.

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121.361 Applicability

(a) Except as provided by paragraph (b) of this section, this subpart prescribes requirements for maintenance, preventive maintenance. and alteration for all certificate holders.

(b) The Director may amend a certificate holder's operations specifications to permit deviation from those provisions of this subpart that would prevent the return to service and use of airframe components, powerplants, appliances, and spare parts thereof because those items have been maintained, altered, or inspected by persons employed outside Indonesia who do not hold Indonesia licenses. Each certificate holder who uses parts under this deviation must provide for surveillance of facilities and practices to ensure that all work performed on these parts is accomplished in accordance with the certificate holder's manual.

121.363 Responsibility for airworthiness.

(a) Each certificate holder is primarily responsible for–
   (1) The airworthiness of its aircraft, including airframe, aircraft engines, propellers, appliances, and parts thereof; and
   (2) The performance of the maintenance, preventive maintenance, and alteration of its aircraft, including airframes, aircraft engines, propellers, appliances, emergency equipment, and parts thereof, in accordance with its CMM and the the CASR 43.

(b) A certificate holder may make arrangements with another person for the performance of any maintenance, preventive maintenance, or alterations. However, this does not relieve the certificate holder of the responsibility specified in paragraph (a) of this section.

121.365. Maintenance, preventive maintenance, and alteration organization.

(a) Each certificate holder that performs any of its maintenance (other than required inspections), preventive maintenance, or alterations, and each person with whom it arranges for the performance of that work must have an organization adequate to perform the work.

(b) Each certificate holder that performs any inspection required by its manual in accordance with section 121.369(l)(9) (in this subpart referred to as "required inspections") and each person with whom it arranges for the performance of that work must have an organization adequate to perform that work.

(c) Each person performing required inspections in addition to other maintenance, preventive maintenance, or alteration, shall organize the performance of those functions so as to separate the required inspection functions from the other maintenance, preventive maintenance, and alteration functions. The separation shall be below the level of administrative control at which overall responsibility for the required inspection functions and other maintenance, preventive maintenance, and alterations functions are exercised.

121.367. Maintenance, preventive maintenance, and alterations programs.

Each certificate holder shall have an inspection program and a program covering other maintenance, preventive maintenance, and alterations that ensures that–

(a) Maintenance, preventive maintenance, and alterations performed by it, or by other persons, are performed in accordance with:
   (1) The certificate holder's manual; and
   (2) Approved continuous airworthiness maintenance program.

(b) Competent personnel and adequate facilities and equipment are provided for the proper performance of maintenance, preventive maintenance, and alterations; and

(c) Each aircraft released to service is airworthy and has been properly maintained for operation under this part.

121.368. Performance standards.

Each certificate holder that performs any of its maintenance, preventive maintenance, or alteration, and each person with whom it arranges for the performance of that work must meet the following requirements of:

a) CASR 145.35 or CASR 145.37 as appropriate;
b) CASR 145.39, through CASR 145.45;
c) CASR 145.47 or CASR 145.49 as appropriate;
d) CASR 145.57; and
e) CASR 145.59.

121.369. Company Maintenance Manual requirements.

The certificate holder shall provide the Director with a Company Maintenance Manual approved by DGAC which shall contain:

a) A statement signed by the Chief Executive, on behalf of the applicant's organization, confirming that the company maintenance manual:
   (1) defines the organization and demonstrate its means and methods for ensuring ongoing compliance with this CASR; and
   (2) will be complied with at all times;

b) procedures to control, amend and distribute the company maintenance manual to each of its supervisory personnel and make it available to its other personnel in their work area. The certificate holder is responsible for seeing that all supervisory and inspection personnel thoroughly understand the company maintenance manual;

c) a chart or description of the certificate holder's organization required by CASR 121.365;

d) the duties and responsibilities of the person or persons specified in paragraph (c) including matters for which they have responsibility to deal directly with the Director on behalf of the Certificate holder;

e) a list of persons with whom it has arranged for the performance of any of its required inspections, other maintenance, preventive maintenance, or alterations, including a general description of that work;

details of the applicant's staffing structure, or the persons with whom the certificate holder has arranged to carry out the maintenance, at each of its maintenance locations listed under paragraph (g) below;

details of all locations where the applicant conducts maintenance and the facilities at those locations;

procedures regarding maintenance to be carried out at locations not listed in the company maintenance manual;

the procedures and programs required by CASR 121.367 that must be followed in performing maintenance, preventive maintenance, and alterations of that certificate holder's airplanes, including airframes, aircraft engines, propellers, appliances, emergency equipment, and parts thereof;

procedures to ensure that required inspections, other maintenance, preventive maintenance, and alterations that are completed as a result of shift changes or similar work interruptions are properly completed before the aircraft is released to service;

Samples of inspection forms, tags, and the method of executing them, and detailed description of the scope of work undertaken by the applicant; and details of the applicant's procedures regarding–

(1) the responsibilities for airworthiness;
(2) arrangements made for the performance of maintenance by other persons;
(3) the provision of adequate housing and facilities;
(4) the provision of adequate equipment and materials;
(5) the provision of satisfactory storage and segregation of spare parts;
(6) procedures, standards, and limits necessary for periodic inspection and calibration of precision tools, measuring devices, and test equipment;
(7) performance standards;
(8) inspection of work performed;
(9) all required inspection procedures including a designation of the items of maintenance and alteration that must be inspected, the method and procedures for performing required inspections and a designation by occupational title of personnel authorized to perform each required inspection;
(10) competence of personnel;
(11) the internal inspection system of the organization in a manner easily understood by any employee of the organization including the continuity of inspection responsibility;
(12) the internal quality assurance of the organization;
(13) on-going training of personnel;
(14) the method for controlling engineer duty time;
(15) the method of recording the scope of approvals granted to supervisors and inspection personnel;
(16) the recording of maintenance carried out and retention of maintenance records;
(17) the reporting of aircraft defects and unairworthy conditions;
(18) the control and amendment of airworthiness data;
(19) the procurement and acceptance of aircraft material, parts, components and services from external sources; and
(20) procedures to ensure that reference, whenever necessary, is made to the manufacturer's inspection standards for the maintenance of any article.

121.371. Required inspection and appropriate personnel.

For the purpose of these regulations Required Inspection are items of maintenance and alteration that must be inspected, includes those that could result in a failure, malfunction, or defect endangering the safe operation of the aircraft, if not performed properly or improper parts or materials are used.

(a) No person may use any person to perform required inspections unless the person performing the inspection is appropriately licensed, properly trained, qualified, and authorized to do so.

(b) No person may allow any person to perform a required inspection unless, at that time, the person performing that inspection is under the supervision and control of an inspection unit.

(c) No person may perform a required inspection if he performed the item of work required to be inspected.

(d) Each certificate holder shall maintain, or shall determine that each person with whom it arranges to perform its required inspections maintains, a current listing of persons who have been trained, qualified, and authorized to conduct required inspections. The persons must be identified by name, occupational title, and the inspections that they are authorized to perform. The certificate holder (or person with whom it arranges to perform its required inspection) shall give written information to each person so authorized describing the extent of his responsibilities, authorities, and inspectional limitations. The list shall be made available for inspection by the Director upon request.

121.373. Continuing analysis and surveillance.

(a) Each certificate holder shall establish and maintain a system for the continuing analysis and surveillance of the performance and effectiveness of its inspection program and the program covering other maintenance, preventive maintenance, and alterations and for the correction of any deficiency in those programs, regardless of whether those programs are carried out by the certificate holder or another person.

(b) The continuing analysis and surveillance system shall include–

(1) a safety policy and safety policy procedures that are relevant to the applicant's organizational goals and the expectations and needs of its customers;

(2) a procedure to ensure quality indicators, including defect and incident reports, and personnel and customer feedback, are monitored to identify existing problems or potential causes of problems within the system;

(3) an internal audit program to audit the applicant's organization for conformity with the procedures in its company maintenance manual and achievement of the goals set in its safety policy;

(4) a procedure for corrective action to ensure existing problems that have been identified within the system are corrected;

(5) a procedure for preventive action to ensure that potential causes of problems that have been identified within the system are remedied; and

(6) management review procedures, which shall include the use of statistical analysis, to ensure the continuing suitability and effectiveness of the

continuing analysis and surveillance system in satisfying the requirements of this Part.

The safety policy procedures shall ensure that the safety policy is understood, implemented, and maintained at all levels of the organization

The internal audit program shall–

(1) specify the frequency and location of the audits taking into account the nature of the activity to be audited;

(2) ensure audits are performed by trained auditing personnel who are independent of those having direct responsibility for the activity being audited;

(3) measure the results of audits are reported to the personnel responsible for the activity being audited and the manager responsible for internal audits;

(4) require preventive or corrective action to be taken by the personnel responsible for the activity being audited if problems are found by the audit; and

(5) ensure follow up audits to review the effectiveness of any preventive or corrective action taken.

The procedure for corrective action shall specify how–

(1) to correct an existing problem;

(2) to follow up a corrective action to ensure the action is effective; and

(3) management will measure the effectiveness of any corrective action taken.

The procedure for preventive action shall specify how:

(1) to correct a potential problem;

(2) to follow up a preventive action to ensure the action is effective;

(3) to amend any procedure required by this Part as a result of a preventive action and;

(4) management will measure the effectiveness of any preventive action taken.

The procedure for management review shall:

(1) specify the frequency of management reviews of the quality assurance system taking into account the need for the continuing effectiveness of the system,

(2) identify the responsible manager who shall review the quality assurance system; and

(3) ensure the results of the review are evaluated and recorded.

The senior person who has the responsibility for internal quality assurance shall have direct access to the Chief Executive on matters affecting safety.

Whenever the Director finds that either or both of the programs described in paragraph (a) of this section does not contain adequate procedures and standards to meet the requirements of this part, the certificate holder shall, after notification by the Director, make any changes in those programs that are necessary to meet those requirements.

.375. Maintenance and preventive maintenance training program.

Each certificate holder or person performing maintenance or preventive maintenance functions for it shall have a training program to ensure that each person (including inspection personnel) who determines the adequacy of work done is fully informed about procedures and techniques and new equipment in use and is competent to perform his duties.

The training program shall ensure all maintenance personnel receive initial training and continuation training appropriate to their assigned tasks and responsibilities.

and shall include training in knowledge and skills related to human performance, including co-ordination with other maintenance personnel and flight crew.

121.377. Maintenance and Preventive Maintenance Personnel Duty Time Limitations

Within Indonesia, each certificate holder (or person performing maintenance or preventive maintenance functions for it) shall relieve each person performing maintenance or preventive maintenance from duty for a period of at least 24 consecutive hours during any seven consecutive days, or the equivalent thereof within any one calendar month

121.378. Certificate requirements.

a) Except for maintenance, preventive maintenance, alterations, and required inspections performed by Approved Maintenance Organizations certificated under the provisions of subpart C of Part 145, each person who is directly in charge of maintenance, preventive maintenance, or alteration, and each person performing required inspections must hold an appropriate License issued under Part 65.

b) For the purposes of this section, a person "directly in charge" is each person assigned to a position in which he is responsible for the work of a shop or organization that performs maintenance, preventive maintenance, alterations, or other functions affecting aircraft airworthiness. A person who is "directly in charge" need not physically observe and direct each worker constantly but must be available for consultation and decision on matters requiring instruction or decision from higher authority than that of the persons performing the work.

121.379. Authority to Perform and Approve Maintenance, Preventive Maintenance, and Alterations

a) A certificate holder may perform, or it may make arrangements with other persons to perform, maintenance, preventive maintenance, and alterations as provided in its continuous airworthiness maintenance program and its maintenance manual. In addition, a certificate holder may perform these functions for another certificate holder as provided in the continuous airworthiness maintenance program and maintenance manual of the other certificate holder.

b) A certificate holder may approve any aircraft, airframe, airframe engine, propeller, or appliance for return to service after maintenance, preventive maintenance, or alterations that are performed under paragraph (a) of this section. However, in the case of a major repair or major alteration, the work must have been done in accordance with technical data approved by the Director.

121.380. Maintenance Recording Requirements.

a) Each certificate holder shall keep (using system specified in the manual required in CASR 121.369) the following records for the periods specified in paragraph (b) of this section

(1) All the records necessary to show that all requirements for the issuance of a maintenance release under CASR 43 and section 121.709 have been met.
(2) Records containing the following information:

(i) The total time in service of the airframe.
(ii) The total time in service of each engine and propeller.
(iii) The current status of life-limited parts of each airframe, engine, propeller, and appliance.
(iv) The time since last overhaul of all items installed on the aircraft which are required to be overhauled on a specified time basis.
(v) The identification of the current inspection status of the aircraft, including the times since the last inspections required by the inspection program under which the aircraft and its appliances are maintained.
(vi) The current status of applicable airworthiness directives, including the date and methods of compliance, and if the airworthiness directive involves recurring action, the time and date when the next action is required.
(vii) A list of current alterations to each airframe, engine, propeller, and appliance.

)) Each certificate holder shall retain the records required to be kept by this section for the following periods:
(1) Except for the records of the last complete overhaul of each airframe, engine, propeller, and appliance, the records specified in paragraph (a)(1) of this section shall be retained until the work is repeated or superseded by other work or for two years after the work is performed.
(2) The records of the last complete overhaul of each airframe, engine, propeller, and appliance shall be retained until the work is superseded by work of equivalent scope and detail.
(3) The records specified in paragraph (a)(2) of this section shall be retained and transferred with the aircraft at the time the aircraft is sold.
(4) The records specified in paragraph (a)(2) of this section shall be retained for a minimum period of 90 days after the unit to which they refer has been permanently withdrawn from service.
) The certificate holder shall make all maintenance records required to be kept by this section available for inspection by the Director.

21.380A. Transfer of Maintenance Records

ach certificate holder who sells an Indonesian registered aircraft shall transfer to the rchaser, at the time of sale, the following records of that aircraft, in plain language form in coded form at the election of the purchaser, if the coded form provides for the eservation and retrieval of information in a manner acceptable to the Director:
The records specified in section 121.380(a)(2).
The records specified in section 121.380(a)(1) which are not included in the records covered by paragraph (a) of this section, except that the purchaser may permit the seller to keep physical custody of such records. However, custody of records in the seller does not relieve the purchaser of his responsibility under section 121.380(c) to make the records available for inspection by the Director.

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121.381 Applicability

This subpart prescribes airman and crewmember requirements for all certificate holders.

121.383 Airman: Limitations on Use of Services

(a) No certificate holder may use any person as an airman nor may any person serve as an airman unless that person:
  (1) Holds an appropriate current airman certificate issued by the DGAC;
  (2) Has any required appropriate current airman and medical certificates in his possession while engaged in operations under this part; and
  (3) Is otherwise qualified for the operation for which he is to be used.

(b) Each airman covered by Paragraph (a)(2) of this section shall present either or both certificates for inspection upon the request of the Director.

(c) No certificate holder may use the services of any person as a pilot in-command on an airplane engaged in operations under this part if that person has reached his or her 60th birthday. No person may serve as a pilot in-command on an airplane engaged in operations under this part if that person has reached his or her 60th birthday.

121.385 Composition of Flight Crew

(a) No certificate holder may operate an airplane with less than the minimum flight crew in the airworthiness certificate or the airplane Flight Manual approved for that type airplane and required by this part for the kind of operation being conducted.

(b) In any case in which this part requires the performance of two or more functions for which an airman certificate is necessary, that requirement is not satisfied by the performance of multiple functions at the same time by one airman.

(c) The following minimum pilot crews apply:
An air carriers minimum pilot crew is to two pilots and the air carrier shall designate one pilot as pilot in command and the other second in command.

(d) On each flight requiring a flight engineer at least one flight crewmember, other than the flight engineer, must be qualified to provide emergency performance of the flight engineer's functions for the safe completion of the flight if the flight engineer becomes ill or is otherwise incapacitated. A pilot need not hold a flight engineer's certificate to perform the flight engineer's functions in such a situation.

121.387 Flight Engineer

(a) No person may operate the following airplanes without a flight crewmember holding a current flight engineer licence:

(1) An airplane for which a flight engineer is required by the airplane's type certification requirements.
(2) An airplane for which DGAC deems a flight engineer is necessary by the requirements of Part 25.

121.389 Flight Navigator and Specialized Navigation Equipment

(a) No certificate holder may operate an airplane outside Indonesian airspace, when its position cannot be reliably fixed for a period of more than 1 hour, without:
  (1) A flight crewmember who holds a current flight navigator certificate; or
  (2) Specialized means of navigation approved in accordance with Section 121.355 which enables a reliable determination to be made of the position of the airplane by each pilot seated at his duty station.

(b) Notwithstanding Paragraph (a) of this section, the Director may also require a flight navigator or special navigation equipment, or both, when specialized means of navigation are necessary for 1 hour or less. In making this determination, the Director considers:
  (1) The speed of the airplane;
  (2) Normal weather conditions enroute;
  (3) Extent of air traffic control;
  (4) Traffic congestion;
  (5) Area of navigational radio coverage at destination;
  (6) Fuel requirements;
  (7) Fuel available for return to point of departure or alternates;
  (8) Predication of flight upon operation beyond the point of no return; and
  (9) Any other factors he determines are relevant in the interest of safety.

(c) Operations where a flight navigator or special navigation equipment, or both, are required are specified in the operations specifications of the air carrier or commercial operator.

121.391 Flight Attendants

(a) Each certificate holder shall provide at least the following flight attendants on each passenger-carrying airplane used:
  (1) For airplanes having a seating capacity of more than nine but less than 51 passengers - one flight attendant.
  (2) For airplanes having a seating capacity of more than 50 but less than 101 passengers two flight attendants.
  (3) For airplanes having a seating capacity of more than 100 passengers two flight attendants plus one additional flight attendant for each unit (or part of a unit) of 50 passenger seats above a seating capacity of 100 passengers.

(b) If, in conducting the emergency evacuation demonstration required under Section 121.291(a) or (b), the certificate holder used more flight attendants than is required under Paragraph (a) of this section for the maximum seating capacity of the airplane used in the demonstration, he may not, thereafter, takeoff that airplane:

(1) In its maximum seating capacity configuration with fewer flight attendants than the number used during the emergency evacuation demonstration; or

(2) In any reduced seating capacity configuration with fewer flight attendants than the number required by Paragraph (a) of this section for that seating capacity plus the number of flight attendants used during the emergency evacuation demonstration that were in excess of those required under Paragraph (a) of this section.

(c) The number of flight attendants approved under Paragraphs (a) and (b) of this section are set forth in the certificate holder's operations specifications.

(d) During takeoff and landing, flight attendants required by this section shall be located as near as practicable to required floor-level exists and shall be uniformly distributed throughout the airplane in order to provide the most effective egress of passengers in event of an emergency evacuation. During taxi, flight attendants required by this section must remain at their duty stations with safety belts and shoulder harnesses fastened except to perform duties related to the safety of the airplane and its occupants.

(e) At stops where passengers remain on board the aircraft and proceed on that aircraft to another destination, each certificate holder shall provide and maintain on board the aircraft during that stop at least one-half (rounded to the next lower figure in the case of a fraction) of the flight attendants as provided in Paragraph (a) of this section or the same number of other personnel qualified in the emergency evacuation procedures for that aircraft as required in Section 121.417 provided those personnel are identified to the passengers. but never fewer than one such person. These persons shall be uniformly distributed throughout the airplane to provide the most effective egress of passengers in the event of an emergency evacuation. Should there be only one flight attendant on board the aircraft, that person will be located in accordance with the airline's DGAC-approved operating procedures. During such stops when the flight attendant complement is fewer than required by Section 121.391(a), the certificate holder must ensure that the aircraft engines are shut down and at least one floor-level exit on that aircraft remains open during the stop and that such exit provides for the deplaning of passengers.

121.393 [Reserved]

121.395 Flight Operations Officer: Domestic and Flag Air Carriers

Each domestic and flag air carrier shall provide enough qualified flight operations officers at each dispatch center to ensure proper operational control of each flight.

121.397 Emergency and Emergency Evacuation Duties

(a) Each certificate holder shall, for each type and model of airplane, assigned to each category of required crewmember, as appropriate, the necessary functions to be performed in an emergency or a situation requiring emergency evacuation. The certificate holder shall show those functions are realistic, can be practically

accomplished, and will meet any reasonably anticipated emergency including the possible incapacitation of individual crewmembers or their inability to reach the passenger cabin because of shifting cargo in combination cargo/passenger airplanes.

(b) The certificate holder shall describe in its manual the functions of each category of required crewmembers under Paragraph (a) of this section.

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121.400 Applicability and Terms Used

(a) This subpart prescribes the requirements applicable to each certificate holder for establishing and maintaining a training program for crewmembers, flight operations officers, and other operations personnel, and for the approval and use of training devices in the conduct of the program.

(b) For the purpose of this subpart, the following terms and definitions apply:

(1) Initial training. The training required for crewmembers and flight operations officers who have not qualified and served in the same capacity on another airplane of the same group.

(2) Transition training. The training required for crewmembers and flight operations officers who have qualified and served in the same capacity on another airplane of the same group.

(3) Upgrade training. The training required for crewmembers who have qualified and served as second in command or flight engineer on a particular airplane type, before they serve as pilot in command or second in command, respectively, on that airplane.

(4) Differences training. The training required for crewmembers and flight operations officers who have qualified and served on a particular type airplane, when the Director finds differences training are necessary before a crewmember serves in the same capacity on a particular variation of that airplane.

(5) In-flight. Refers to manoeuvres, procedures, or functions that must be conducted in the airplane.

121.401 Training Program: General

(a) Each certificate holder shall:

(1) Establish, obtain the appropriate initial and final approval of, and provide, a training program that meets the requirements acceptable to the DGAC and that ensures that each crewmember, flight operations officer, flight instructor, and check airman, and each person assigned duties for the carriage and handling of dangerous articles and magnetized materials, is adequately trained to perform his assigned duties.

(2) Provide adequate ground and flight training facilities and properly qualified ground instructors for the training required by this subpart;

(3) Provide and keep current with respect to each airplane type and, if applicable, the particular variations within that airplane type, appropriate training material, examinations, forms, instructions, and procedures for use in conducting the training and checks required by this part; and

(4) Provide enough flight instructors, simulator instructors, and approved check airmen to conduct required flight training and flight checks, and simulator training courses permitted under this part.

(b) Each instructor, supervisor, or check airman who is responsible for a particular ground training subject, segment of flight training, course of training, flight check, or competence check under this part shall certify as to the proficiency and knowledge of the crewmember, flight operations officer, flight instructor, or check airman concerned upon completion of that training or check. That certification shall be made a part of the crewmember's or flight operations officer's record. When the certification required by this paragraph is made by an entry in a computerized record keeping system, the certifying instructor, supervisor, or check airman must be identified with that entry However, the signature of the certifying instructor, supervisor, or check airman is not required for computerized entries.

(c) Training subjects that are applicable to more than one airplane or crewmember position and that have been satisfactorily completed in connection with prior training for another airplane or another crewmember position, need not be repeated during subsequent training other than recurrent training.

In the case of a certificate holder using a course of training permitted in Section 121.409(c), the Director may require the programmed hours of in-flight training in whole or in part, until he finds the effectiveness of the flight training has improved as provided in Paragraph (e) of this section.

121.403 Training Program: Curriculum

(a) Each certificate holder must prepare and keep current a written training program curriculum for each type of airplane with respect to flight operations officers and each crewmember required for that type airplane. The curriculum must include ground and flight training required by this subpart.

(b) Each training program curriculum must include:

(1) A list of principal ground training subjects, including emergency training subjects that are provided.

(2) A list of all the training devices mockups, systems trainers, procedures trainers, or other training aids that the certificate holder will use.

(3) Detailed descriptions or pictorial displays of the approved normal, abnormal, and emergency maneuvers, procedures and functions that will be performed during each flight training phase or flight check, indicating those maneuvers, procedures and functions that are to be performed during the in-flight portions of flight training and flight checks.

(4) A list of airplane simulators or other training devices including approvals for particular maneuvers, procedures, or functions.

(5) The hours of training that will be applied to each phase of training.

121.404 Windshear Training

(a) No air carrier shall assign a person to act as a flight crewmember unless that person has received windshear training in accordance with the following:

(1) In the case of an aircraft type which does not use a flight simulator in the approved training program.

(i) technical training in the recognition, effects and immediate actions appropriate to the type of aircraft flown,

(2) in the case of turbojet aircraft type which does use a flight simulator in its training program;

(i) the technical training required by Subsection (a)(1)(i) of this section, and

(ii) sufficient practice in controlling windshear profiles in the aircraft type simulator to ensure each pilot's ability to recognize, announce and control the aircraft from the initial onset of the shear, to the point where the aircraft has regained normal flight parameters.

(b) Windshear training prescribed herein shall be given on an initial and annual basis for each aircraft type on which a person is assigned to act as a flight crewmember.

121.405 Training Program and Revision: Initial and Final Approval

(a) To obtain initial and final approval of a training program, or a revision to an approved training program, each certificate holder must submit to the Director:

(1) An outline of the proposed program or revision, including an outline of the proposed or revised curriculum, that provides enough information for a preliminary evaluation of the proposed training program or revised training program; and

(2) Additional relevant information as may be requested by the Director.

(b) If the proposed training program or revision complies with this subpart the Director grants initial approval in writing after which the certificate holder may conduct the training in accordance with that program. The Director then evaluates the effectiveness of the training program and advises the certificate holder of deficiencies, if any that must be corrected.

(c) The Director grants final approval of the training program or revision if the certificate holder shows that the training conducted under the initial approval set forth in Paragraph (b) of this section ensures that each person that successfully completes the training is adequately trained to perform his assigned duties.

(d) In granting initial and final approval of training programs or revisions the Director considers the training aids, devices, methods, and procedures listed in the certificate holder's curriculum as set forth in Section 121.403 that increase the quality and effectiveness of the teaching/learning process.

(e) Whenever the Director finds that revisions are necessary for the continued adequacy of a training program that has been granted final approval, the certificate holder shall, after notification by the Director, make any changes in the program that are found necessary by the Director. Within 30 days after the certificate holder receives such notice, it may file a petition to reconsider the notice with the DGAC. The filing of a petition to reconsider stays the notice pending a decision by the Director. However, if the Director finds that there is an emergency that requires immediate action in the interest of safety in air transportation, he may, upon a statement of the reasons, require a change effective without stay.

121.406 Crew Resource Management Training

(a) No air carrier shall assign a person to act as a crewmember on any aircraft unless that person has received crew resource management training in accordance with the following:

(1) Initial training for all crewmembers shall cover the following subjects:
   (i) attitudes and behaviors,
   (ii) communication skills,
   (iii) problem solving,
   (iv) human factors,
   (v) conflict resolution,
   (vi) decision making,
   (vii) team building and maintenance, and
   (viii) workload management.

(2) Recurrent training as prescribed herein, shall be given every 12 months and cover safety and emergency procedures and where possible, include joint participation of pilots and flight attendants:
   (i) relationship of crew members,
   (ii) review of incidents/accidents of air carriers,
   (iii) presentation and discussion of selected coordinated emergency procedures, and
   (iv) crewmember evacuation drills and debriefing.

121.407 Training Program: Approval of Airplane Simulators and other Training Devices

(a) Each airplane simulator and other training device that is used in a training course permitted under Section 121.409, in checks required under Subpart O of this part must:
   (1) Be specifically approved for:
      (i) The certificate holder;
      (ii) The type airplane and, if applicable, the particular variation within type, for which the training or check is being conducted; and
      (iii) The particular maneuver, procedure, or crewmember function involved.
   (2) Maintain the performance, functional, and other characteristics that are required for approval.
   (3) Be modified to conform with any modification to the airplane being simulated that results in changes to performance, functional, or other characteristics required for approval.
   (4) Be given a daily functional preflight check before being used.
   (5) Have a daily discrepancy log kept with each discrepancy entered in that log by the appropriate instructor or check airman at the end of each training or check flight.

(b) A particular airplane simulator or other training device may be approved for use by more than one certificate holder.

(c) An airplane simulator approved under this section may be used instead of the airplane to satisfy the pilot flight training requirements prescribed in the certificate holder's approved low altitude windshear flight training program.

121.409 Training Courses Using Airplane Simulators and other Training Devices

(a) Training courses utilizing airplane simulators and other training devices may be included in the certificate holder's approved training program for use as provided in this section.

(b) A course of training in an airplane simulator may be included for use as provided in Section 121.441 if that course:

(1) Provides training at the pilot controls of an airplane simulator as well as a proper briefing before and after the training;

(2) Provides training in at least the procedures and maneuvers acceptable to the DGAC or

(3) Provides line oriented training that:

(i) Utilizes a complete flight crew;

(ii) Includes at least the maneuvers and procedures (abnormal and emergency) that may be expected in line operations;

(iii) Is representative of the flight segment appropriate to the operations being conducted by the certificate holder; and

(4) is given by an instructor who meets the applicable requirements of Section 121.411.

The satisfactory completion of the course of training must be certified by either the Director or a qualified check airman.

121.411 Qualifications: Flight Instructors (Airplane) and Flight Instructors (Simulator)

(a) For the purposes of this section:

(1) A flight instructor (airplane) is a person who is qualified to instruct in an airplane, in a flight simulator, or in a flight training device for a particular type airplane.

(2) A flight instructor (simulator) is a person who is qualified to instruct, but only in a flight simulator, in a flight training device, or both, for a particular type airplane.

(3) Flight instructors (airplane) and flight instructors (simulator) are those instructors who perform the functions described in Section 121.401(a)(4).

(b) No certificate holder may use a person nor may any person serve as a flight instructor (airplane) in a training program established under this subpart unless, with respect to the airplane type involved, that person:

(1) Holds the airman certificates and rating required to serve as a pilot in command, a flight engineer, or a flight navigator, as applicable, in operations under this part;

(2) Has satisfactorily completed the appropriate training phases for the airplane, including recurrent training, that are required to serve as a pilot in command, flight engineer, or flight navigator, as applicable, in operations under this part;

(3) Has satisfactorily completed the appropriate proficiency or competency checks that are required to serve as a pilot in command, flight engineer, or flight navigator, as applicable, in operations under this part;

airman, or an aircrew designated examiner employed by the operator. The observation check may be accomplished in part or in full in an airplane, in a flight simulator, or in a flight training device.

(b) The initial ground training for flight instructors must include the following:

(1) Flight instructor duties, functions, and responsibilities.

(2) The applicable CASR and the certificate holder's policies and procedures.

(3) The appropriate methods, procedures, and techniques for conducting flight instruction.

(4) Proper evaluation of student performance including the detection of:

(i) Improper and insufficient training; and

(ii) Personal characteristics of an applicant that could adversely affect safety.

(5) The corrective action in the case of unsatisfactory training progress.

(6) The approved methods, procedures, and limitations for performing the required normal, abnormal, and emergency procedures in the airplane.

(7) Except for holders of a flight instructor certificate -

(i) The fundamental principles of the teaching-learning process;

(ii) Teaching methods and procedures; and

(iii) The instructor-student relationship.

(c) The transition ground training for flight instructors must include the approved methods, procedures, and limitations for performing the required normal, abnormal and emergency procedures applicable to the airplane to which the flight instructor is in transition.

(d) The initial and transition flight training for flight instructors (airplane), flight engineer instructors (airplane), and flight navigator instructors (airplane) must include the following:

(1) The safety measures for emergency situations that are likely to develop during instruction.

(2) The potential results of improper, untimely, or non-execution of safety measures during instruction.

(3) For pilot flight instructor (airplane):

(i) In-flight training and practice in conducting flight instruction from the left and right pilot seats in the required normal, abnormal, and emergency procedures to ensure competence as an instructor; and

(ii) The safety measures to be taken from either pilot seat for emergency situations that are likely to develop during instruction.

(4) For flight engineer instructors (airplane) and flight navigator instructors (airplane), in-flight training to ensure competence to perform assigned duties.

(e) The requirements of paragraph (d) of this section may be accomplished in full or in part in flight, in a flight simulator, or in a flight training device, as appropriate.

(f) The initial and transition flight training for flight instructors (simulator) must include the following:

(1) Training and practice in the required normal, abnormal, and emergency procedures to ensure competence to conduct the flight instruction required by this part. This training and practice must be accomplished in full or in part in a flight simulator or in a flight training device.

(2) Training in the operation of flight simulators or flight training devices, or both, to ensure competence to conduct the flight instruction required by this part.

121.415 Crew Member and Flight Operations Officer Training Requirements

a) Each training program must provide the following ground training as appropriate to the particular assignment of the crewmember or flight operations officer:
   (1) Basic indoctrination ground training for newly hired crewmembers or flight operations officers including a number of hours of instruction acceptable to the DGAC in at least the following:
      (i) Duties and responsibilities of crewmembers or flight operations officers, as applicable;
      (ii) Appropriate provisions of the Civil Aviation Safety Regulations;
      (iii) Contents of the certificate holder's air operator certificate and operations specifications (not required for flight attendants); and
      (iv) Appropriate portions of the certificate holder's operating manual.
   (2) The initial and transition ground training specified in Sections 121.419 through 121.422, as applicable.
   (3) Emergency training as specified in Section 121.417 (not required for flight operations officers).

b) Each training program must provide the flight training specified in Sections 121.424 through 121.426, as applicable.

c) Each training program must provide recurrent ground and flight training as provided in Section 121.427.

d) Each training program must provide the differences training specified in Section 121.418 if the Director finds that, due to differences between airplanes of the same type operated by the certificate holder, additional training is necessary to ensure that each crewmember and flight operations officer is adequately trained to perform his assigned duties.

e) Upgrade training as specified in Sections 121.419 and 121.424 for a particular type airplane may be included in the training program for crewmembers who have qualified and served as second in command pilot or flight engineer on that airplane.

f) Particular subjects, maneuvers, procedures, or parts thereof specified in Sections 121.419 through 121.425 for transition or upgrade training, as applicable, may be omitted if approved by the DGAC.

g) In addition to initial, transition, upgrade, recurrent and differences training, each training program must also provide ground and flight training, instruction, and practice as necessary to ensure that each crewmember and flight operations officer:
   (1) Remains adequately trained and currently proficient with respect to each airplane, crewmember position, and type of operation in which he serves; and
   (2) Qualifies in new equipment, facilities, procedures, and techniques, including modifications to airplanes.

121.417 Crewmember Emergency Training

a) Each training program must provide the emergency training set forth in this section with respect to each airplane type, model, and configuration, each required crewmember, and each kind of operation conducted, insofar as appropriate for each crewmember and the certificate holder.

Emergency training must provide the following:
Instruction in emergency assignments and procedures, including coordination among crewmembers.
Individual instruction in the location, function, and operation of emergency equipment including:
Equipment used in ditching and evacuation;
First aid equipment and its proper use;
Portable fire extinguishers, with emphasis on type of extinguisher to be used on different classes of fires; and
Emergency exits in the emergency mode with the evacuation slide/raft pack attached (if applicable), with training emphasis on the operation of the exits under adverse conditions.
Instruction in the handling of emergency situations including:
Rapid decompression;
Fire in flight or on the surface, and smoke control procedures with emphasis on electrical equipment and related circuit breakers found in cabin areas including all galleys, service centers, lifts, lavatories and movie screens;

(ii) Ditching and other evacuation, including the evacuation of persons and their attendants, if any, who may need the assistance of another person to move expeditiously to an exit in the event of an emergency;

(iii) Illness, injury, or other abnormal situations involving passengers or crewmembers to include familiarization with the emergency medical kit; and

(iv) Hijacking and other unusual situations.

(4) Review and discussion of previous aircraft accidents and incidents pertaining to actual emergency situations.

Each crewmember must accomplish the following emergency training during the specified training periods, using those items of installed emergency equipment for each type of airplane in which he or she is to serve (Alternate recurrent training required by Section 121.433(c) of this part may be accomplished by approved pictorial presentation or demonstration):

(1) One time emergency drill requirements to be accomplished during initial training. Each crewmember must perform:

(i) At least one approved firefighting drill in which the crewmember combats an actual fire using at least one type of installed hand fire extinguisher or approved fire extinguisher that is appropriate for the type of fire to be fought; and

(ii) An emergency evacuation drill with each person egressing the airplane or approved training device using at least one type of installed emergency evacuation slide. The crewmember may either observe the airplane exits being opened in the emergency mode and the associated exit-slide/raft pack being deployed and inflated or perform the tasks resulting in the accomplishment of these actions.

(2) Additional emergency drill requirements to be accomplished during initial training and once each 24 calendar months during recurrent training. Each crewmember must:

(i) Perform the following emergency drills and operate the following equipment:

(A) Each type of emergency exit in the normal and emergency modes, including the actions and forces required in the deployment of the emergency evacuation slides;
(B) Each type of installed hand fire extinguisher;
(C) Each type of emergency oxygen system;
(D) Donning, use, and inflation of individual flotation means, if applicable; and
(E) Ditching, if applicable, including but not limited to, as appropriate:
1) Cockpit preparation and procedures;
2) Crew coordination;
3) Passenger briefing and cabin preparation;
4) Donning and inflation of life preservers;
5) Use of life lines; and
6) Boarding of passengers and crew into raft or a slide/raft pack.

(ii) Observe the following drills:
(A) Removal from the airplane (or training device) and inflation of each type of life raft, if applicable;
(B) Transfer of each type of slide/raft pack from one door to another;
(C) Deployment, inflation, and detachment from the airplane (or training device) of each type of slide/raft pack; and
(D) Emergency evacuation including the use of a slide.

(d) Crewmembers who serve in operations above 25,000 feet must receive instruction in the following:
(1) Respiration.
(2) Hypoxia.
(3) Duration of consciousness without supplemental oxygen at altitude.
(4) Gas expansion.
(5) Gas bubble formation.
(6) Physical phenomena and incidents of decompression.

(e) For the purposes of this section the following definitions apply:
(1) "Actual fire" means an ignited combustible material, in controlled conditions, of sufficient magnitude and duration to accomplish the training objectives outlined in Paragraph (c)(1)(i) of this section.
(2) "Approved fire extinguisher" means a training device that has been approved by the Director for use in meeting the training requirements of Section 121.417(c).
(3) "Combats," in this context, means to properly fight an actual or simulated fire using an appropriate type of fire extinguisher until that fire is extinguished.
(4) "Observe" means to watch without participating actively in the drill.
(5) "Perform" means to satisfactorily accomplish a prescribed emergency drill using established procedures that stress the skill of the persons involved in the drill.
(6) "Simulated fire" means an artificial duplication of smoke or flame used to create various aircraft firefighting scenarios, such as lavatory, galley oven, and aircraft seat fires.

121.418 Differences Training: Crewmembers and Flight Operations Officers

(a) Differences training for crewmembers and flight operations officers must consist of at least the following as applicable to their assigned duties and responsibilities:
  (1) Instruction in each appropriate subject or part of a subject required for initial ground training in the airplane unless the Director finds that particular subjects are not necessary.
  (2) Flight training in each appropriate maneuver or procedure required for initial flight training in the airplane unless the Director finds that particular maneuvers or procedures are not necessary.
  (3) The number of programmed hours of ground and flight training determined by the Director to be necessary for the airplane, the operation, and the crewmember or flight operations officer involved.

(b) Differences training for all variations of a particular type airplane may be included in initial, transition, upgrade, and recurrent training for the airplane.

121.419 Pilots and Flight Engineers: Initial, Transition, and Upgrade Ground Training

(a) Initial, transition, and upgrade ground training for pilots and flight engineers must include instruction in at least the following as applicable to their assigned duties:
  (1) General subjects:
    (i) The certificate holder's dispatch or flight release procedures;
    (ii) Principles and methods for determining weight and balance, and runway limitations for takeoff and landing;
    (iii) Enough meteorology to ensure a practical knowledge of weather phenomena, including the principles of frontal systems, icing, fog, thunderstorms, and high altitude weather situations;
    (iv) Air traffic control systems, procedures, and phraseology;
    (v) Navigation and the use of navigation aids, including instrument approach procedures;
    (vi) Normal and emergency communication procedures;
    (vii) Visual cues prior to and during descent below DH or MDA;
    (viii) Approved crew resource management initial training; and
    (ix) Other instructions as necessary to ensure his competence.
  (2) For each airplane type:
    (i) A general description;
    (ii) Performance characteristics;
    (iii) Engines and propellers;
    (iv) Major components;
    (v) Major airplane systems (i.e., flight controls, electrical, hydraulic); other systems as appropriate; principles of normal, abnormal, and emergency operations; appropriate procedures and limitations;
    (vi) Procedures for:
      (A) Recognizing and avoiding severe weather situations;
      (B) Escaping from severe weather situations, in case of inadvertent encounters, including low altitude windshear, and

(C) Operating in or near thunderstorms (including best penetrating altitudes), turbulent air (including clear air turbulence), icing, hail, and other potentially hazardous meteorological conditions;

(vii) Operating limitations;

(viii) Fuel consumption and cruise control;

(ix) Flight planning;

(x) Each normal and emergency procedure; and

(xi) The approved Airplane Flight Manual.

(b) Initial ground training for pilots and flight engineers must consist of a number of hours acceptable to the DGAC.

(c) No air carrier shall assign a person to act as flight crew member of an aircraft which could within reason, be expected to encounter the effects of surface contamination, unless that person has received within the preceding 12 months;

(1) the initial and recurrent training in safety awareness of the effects of contamination on the critical surfaces of the aircraft including;

(i) responsibility of the PIC and other operations personnel,

(ii) regulations related to operations in icing conditions,

(iii) weather conducive to ice, frost and snow contamination

(iv) inspection before flight and removal of contamination,

(v) in-flight icing recognition, and

(vi) hazards related to critical surface contamination of ice, frost and snow.

121.420 Flight Navigators: Initial and Transition Ground Training

(a) Initial and transition ground training for flight navigators must include instruction in the subjects specified in Section 121.419(a) as appropriate to his assigned duties and responsibilities and in the following with respect to the particular type airplane:

(1) Limitations on climb, cruise, and descent speeds.

(2) Each item of navigational equipment installed including appropriate radio, radar, and other electronic equipment.

(3) Airplane performance.

(4) Airspeed, temperature, and pressure indicating instruments or systems.

(5) Compass limitations and methods of compensation.

(6) Cruise control charts and data, including fuel consumption rates.

(7) Any other instruction as necessary to ensure his competence.

(b) Initial ground training for flight navigators must consist of a number of hours acceptable to the DGAC.

121.421 Flight Attendants: Initial and Transition Ground Training

(a) No air carrier shall assign a person to act and no person shall act as a flight attendant on an aircraft that is required to carry flight attendants, unless that person has completed the air carriers ground training for flight attendants prescribed by this section. Initial and recurrent ground training must include instruction in at least the following:

(1) General subjects:

(i) The authority of the pilot in command, and succession of command;

(ii) Relevant Safety and Security Regulations;
(iii) Passenger handling, including under age children;
(iv) Approved crew resource management training;
(v) Company policy manuals relating to the duties of a flight attendant;
(vi) Customs and immigrations procedures;
(vii) Passenger briefing; and
(viii) Passenger cabin preparation and securing.

(2) For each aeroplane type:
(i) A general description of the aircraft emphasizing physical characteristics that may have a bearing on ditching, evacuation, and in-flight emergency procedures and on other related duties;
(ii) The use of both the public address system and the means of communicating with other flight crewmembers; and
(iii) Proper use of electrical galley equipment and the controls for cabin heat and ventilation.

(3) For emergency or security equipment and procedures;
(i) location and operation of all aircraft exits, including normal, alternate and emergency modes of operation;
(ii) location and use of all emergency equipment on board each aircraft;
(iii) normal and alternate means of communication and communication procedures for normal, emergency and security situations;
(iv) alternate duties in the event of the incapacitation of other crew members;
(v) passenger emergency briefings and aural commands;
(vi) armed intervention or unruly passengers;
(vii) cabin and passenger preparation for emergency landing, ditching and evacuation; and
(vii) medical emergencies on board including administering oxygen.

(4) For practical training:
(i) use of fire extinguishers;
(ii) use of oxygen walk around equipment;
(iii) use of all emergency exits;
(iv) passenger preparation and evacuation, and
(v) use of any other life saving equipment on board a specific aircraft including the onboard medical kit.

(b) Initial and recurrent ground training for flight attendants must include a competence check to determine ability to perform assigned duties and responsibilities:

121.422 Flight Operations Officers: Initial and Transition Ground Training

(a) Initial and transition ground training for flight operations officers must include instruction in at least the following:
(1) General subjects:
(i) Use of communications systems including the characteristics of those systems and the appropriate normal and emergency procedures;

(ii) Meteorology, including various types of meteorological information and forecasts, interpretation of weather data (including forecasting of enroute and terminal temperatures and other weather conditions), frontal systems, wind conditions, and use of actual and prognostic weather charts for various altitudes;
(iii) The NOTAM system;
(iv) Navigational aids and publications;
(v) Joint flight operations officer/pilot responsibilities;
(vi) Characteristics of appropriate airports;
(vii) Prevailing weather phenomena and the available sources of weather information;
(viii) Air traffic control and instrument approach procedures; and
(ix) Approved dispatcher resource management (DRM) initial training.

(2) For each airplane:
(i) A general description of the airplane emphasizing operating and performance characteristics, navigation equipment, instrument approach and communication equipment, emergency equipment and procedures, and other subjects having a bearing on flight operation officer duties and responsibilities;
(ii) Flight operation procedures including procedures specified in Section 121.419(a)(2)(vi);
(iii) Weight and balance computations;
(iv) Basic airplane performance dispatch requirements and procedures;
(v) Flight planning including track selection, flight time analysis, and fuel requirements; and
(vi) Emergency procedures.

(3) Emergency procedures must be emphasized, including the alerting of proper governmental, company, and private agencies during emergencies to give maximum help to an airplane in distress.

(b) Initial and transition ground training for flight operations officers must include a competence check given by an appropriate supervisor or ground instructor that demonstrates knowledge and ability with the subjects set forth in Paragraph (a) of this section.

(c) Initial ground training for flight operations officers must consist of a number of hours acceptable to the DGAC.

121.424 Pilots: Initial, Transition, and Upgrade Flight Training

(a) Initial, transition, and upgrade training for pilots must include flight training and practice in the maneuvers and procedures set forth in the certificate holder's approved low altitude windshear flight training program.

(b) The maneuvers and procedures required by Paragraph (a) of this section must be performed in-flight except:
(1) That windshear maneuvers and procedures must be performed in a simulator in which the maneuvers and procedures are specifically authorized to be accomplished; and

(2) To the extent that certain other maneuvers and procedures may be performed in an airplane simulator or an appropriate training device.

121.425 Flight Engineers: Initial and Transition Flight Training

(a) Initial and transition flight training for flight engineers must include at least the following:

(1) Training and practice in procedures related to the carrying out of flight engineer duties and functions. This training and practice may be accomplished either in-flight, in an airplane simulator, or in a training device.

(2) A flight check that includes:

(i) Preflight inspection;

(ii) In-flight performance of assigned duties accomplished from the flight engineer station during taxi, runup, takeoff, climb, cruise, descent, approach, and landing;

(iii) Accomplishment of other functions, such as fuel management and preparation of fuel consumption records, and normal and emergency or alternate operation of all airplane flight systems, performed either in-flight, in an airplane simulator, or in a training device.

Flight engineers possessing a commercial pilot certificate with an instrument, category and class rating, or pilots already qualified as second in command and reverting to flight engineer, may complete the entire flight check in an approved airplane simulator.

(b) If the certificate holder's approved training program includes a course of training utilizing an airplane simulator or other training device under Section 121.409, each flight engineer must successfully complete in the simulator or other training device:

(1) Training and practice in at least all of the assigned duties, procedures, and functions required by Paragraph (a) of this section; and

(2) A flight check to a flight engineer level of proficiency in the assigned duties, procedures, and functions.

121.426 Flight Navigators: Initial and Transition Flight Training

(a) Initial and transition flight training for flight navigators must include flight training and a flight check that are adequate to ensure his proficiency in the performance of his assigned duties.

(b) The flight training and checks specified in Paragraph (a) of this section must be performed:

(1) In-flight or in an appropriate training device; or

(2) In operations under this part if performed under supervision of a qualified flight navigator.

121.427 Flight Attendant Operational Training

(a) No air carrier shall assign a person to act and no person shall act as a flight attendant on an aeroplane that is required to carry flight attendants, unless that person has completed the air carrier's flight attendant operational training prescribed by this section:

(1) A flight attendant must for a number of hours acceptable to the DGAC perform the assigned duties of a flight attendant on board an aeroplane, while under the supervision of a flight attendant supervisor qualified on that aeroplane type.

(b) Flight attendant operational training is not required for a flight attendant who has previously acquired such experience on any passenger-carrying aeroplane of the same group, if;

(1) that person has received with respect to that aircraft, the initial ground training as prescribed by section 121.421 (a)(2) and (3) of this subpart,

(2) that person has for that type of aeroplane, successfully completed the competency check outlined in this Subpart.

(c) Flight attendant operational training prescribed herein may be completed in a full-scale (except for length) cabin training device of the type aeroplane in which they are to serve, provided;

(1) the cabin training device has been approved by the Director, and

(2) has successfully completed a competency check outlined in this Subpart.

121.429 Recurrent Training

(a) Recurrent training must ensure that each crewmember or flight operation officer is adequately trained and currently proficient with respect to the type airplane (including differences training, if applicable) and crewmember position involved.

(b) Recurrent ground training for crewmembers and flight operation officers must include at least the following:

(1) A quiz or other review to determine the state of the crewmember's or flight operation officer's knowledge with respect to the airplane and position involved.

(2) Instruction as necessary in the subjects required for initial ground training by Section 121.415(a), as appropriate, including emergency training (not required for aircraft flight operation officers).

(3) For flight attendants and flight operation officers, a competence check as required by Sections 121.421(b) and 121.422(b), respectively.

(4) Approved recurrent CRM training. For flight crewmembers, this training or portions thereof may be accomplished during an approved simulator line operational flight training (LOFT) session. The recurrent CRM training requirement does not apply until a person has completed the applicable initial CRM training required by Sections 121.419, 121.421, or 121.422.

c) Recurrent ground training for crewmembers and flight operation officers must consist of a number of hours acceptable to the DGAC.

d) Recurrent flight training for flight crewmembers must include at least the following:

(1) For pilots and flight engineers, flight training in an approved simulator in maneuvers and procedures set forth in the certificate holder's flight training program approved by the Director.
   (i) The number of programmed in-flight hours is not specified; and
   (ii) Satisfactory completion of a proficiency check may be substituted for recurrent flight training as permitted in Section 121.433(c).

(2) For flight engineers
The flight check, other than the preflight inspection, may be conducted in an airplane simulator or other training device. The preflight inspection may be conducted in an airplane, or by using an approved pictorial means that realistically portrays the location and detail or preflight inspection items and provides for the portrayal of abnormal conditions. Satisfactory completion of an approved line oriented simulator-training program may be substituted for the flight check.

(3) For flight navigators, enough in-flight training and an in-flight check to ensure competency with respect to operating procedures and navigation equipment to be used and familiarity with essential navigation information pertaining to the certificate holder's routes that require a flight navigator.

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121.431 Applicability

(a) This subpart prescribes crewmember qualifications for all certificate holders except where otherwise specified.

(b) For the purpose of this subpart, the airplane groups and terms and definitions prescribed in Section 121.400 and the following definitions apply:

(1) "Consolidation" is the process by which a person through practice and practical experience increases proficiency in newly acquired knowledge and skills.

(2) "Line operating flight time" is flight time performed in operations under this part.

(3) "Operating cycle" is a complete flight segment consisting of a takeoff, climb, enroute portion, descent, and a landing.

121.432 General

(a) Except in the case of operating experience under Section 121.434, a pilot who serves as second in command of an operation that requires three or more pilots must be fully qualified to act as pilot in command of that operation.

(b) No certificate holder may conduct a check or any training in operations under this part, except for the following checks and training required by this part or the certificate holder:

(1) Line checks for pilots.

(2) Flight navigator training conducted under the supervision of a flight navigator flight instructor.

(3) Flight navigator flight checks.

(4) Flight engineer checks (except for emergency procedures), if the person being checked is qualified and current in accordance with Section 121.453(a).

(5) Flight attendant training and competence checks.

Except for pilot line checks and flight engineer flight checks, the person being trained or checked may not be used as a required crewmember.

(c) For the purposes of this subpart the terms and definitions in Section 121.400 apply.

121.433 Training Required

(a) Initial training. No certificate holder may use any person nor may any person serve as a required crewmember on an airplane unless that person has satisfactorily completed, in a training program approved under Subpart N of this part, initial ground and flight training for that type airplane and for the particular crewmember position, except as follows:

(1) Crewmembers who have qualified and served as a crewmember on another type airplane of the same group may serve in the same crewmember capacity upon completion of transition training as provided in Section 121.415.

(2) Crewmembers who have qualified and served as second in command or flight engineer on a particular type airplane may serve as pilot in command or

second in command, respectively, upon completion of upgrade training for that airplane as provided in Section 121.415.

Differences training. No certificate holder may use any person nor may any person serve as a required crewmember on an airplane of a type for which differences training is included in the certificate holder's approved training program unless that person has satisfactorily completed, with respect to both the crewmember position and the particular variation of the airplane in which he serves, either initial or transition ground and flight training, or differences training, as provided in Section 121.415.

d) For each airplane in which a pilot serves as pilot in command, he must satisfactorily complete either recurrent flight training or a proficiency check within the preceding 12 calendar months.

e) Notwithstanding Paragraphs (c)(2) and (d) of this section, a proficiency check as provided in Section 121.441 of this part may not be substituted for training in those maneuvers and procedures set forth in a certificate holder's approved low altitude windshear flight training program when that program is included in a recurrent flight training course as required by Section 121.404 of this part.

21.433A Training Requirements: Handling and Carriage of Dangerous Articles and Magnetized Materials

a) No certificate holder may use any person to perform and no person may perform, any assigned duties and responsibilities for the handling or carriage of dangerous articles and magnetized materials governed by the CASR, ICAO Annex 18 and Technical Instructions, unless within the preceding 12 calendar months that person has satisfactorily completed training in a program established and approved under this subpart which includes instructions regarding the proper packaging, marking, labeling, and documentation of dangerous articles and magnetized materials, as required by the CASR, ICAO Annex 18 and Technical Instructions, regarding their compatibility, loading, storage, and handling characteristics. A person who satisfactorily completes training in the calendar month before, or the calendar month after, the month in which it becomes due, is considered to have taken that training during the month it became due.

b) Each certificate holder shall maintain a record of the satisfactory completion of the initial and recurrent training given to crewmembers and ground personnel who perform assigned duties and responsibilities for the handling and carriage of dangerous articles and magnetized materials.

c) A certificate holder operating in a foreign country where the loading and unloading of aircraft must be performed by personnel of the foreign country, may use personnel not meeting the requirements of Paragraphs (a) and (b) of this section if they are supervised by a person qualified under Paragraphs (a) and (b) of this section to supervise the loading, off loading and handling of hazardous materials.

21.434 Operating Experience, Operating Cycles, and Consolidation of Knowledge and Skills

a) No certificate holder may use a person nor may any person serve as a required crewmember of an airplane unless the person has satisfactorily completed, on that

type airplane and in that crewmember position, the operating experience, operating cycles, and the line operating flight time for consolidation of knowledge and skills, required by this section, except as follows:

(1) Crewmembers other than pilots in command may serve as provided herein for the purpose of meeting the requirements of this section.

(2) Pilots who are meeting the pilot in command requirements may serve as second in command.

(3) Separate operating experience, operating cycles, and line operating flight time for consolidation of knowledge and skills are not required for variations within the same type airplane.

(b) In acquiring the operating experience, operating cycles, and line operating flight time for consolidation of knowledge and skills, crewmembers must comply with the following:

(1) In the case of a flight crewmember, he must hold the appropriate certificates and ratings for the crewmember position and the airplane, except that a pilot who is meeting the pilot in command requirements must hold the appropriate certificates and ratings for a pilot in command in the airplane.

(2) The operating experience, operating cycles, and line operating flight time for consolidation of knowledge and skills must be acquired after satisfactory completion of the appropriate ground and flight training for the particular airplane type and crewmember position.

(3) The experience must be acquired in flight during operations under this part. However, in the case of an aircraft not previously used by the certificate holder in operations under this part, operating experience acquired in the aircraft during proving flights or ferry flights may be used to meet this requirement.

(c) Pilot crewmembers must acquire operating experience and operating cycles as follows:

(1) A pilot in command must:

(i) Perform the duties of a pilot in command under the supervision of a check pilot; and

(ii) In addition, if a qualifying pilot in command is completing initial or upgrade training specified in Section 121.424, be observed in the performance of prescribed duties by a DGAC inspector during at least one flight leg which includes a takeoff and landing. During the time that a qualifying pilot in command is acquiring the operating experience in Paragraphs (c)(l) (i) and (ii) of this section, a check pilot who is also serving as the pilot in command must occupy a pilot station. However, in the case of a transitioning pilot in command the check pilot serving as pilot in command may occupy the observer's seat, if the transitioning pilot has made at least two takeoffs and landings in the type airplane used, and has satisfactorily demonstrated to the check pilot that he is qualified to perform the duties of a pilot in command of that type of airplane.

(2) A second in command pilot must perform the duties of a second in command under the supervision of an appropriately qualified check pilot.

(3) The hours of operating experience and operating cycles for all pilots must be a number acceptable to DGAC.

(d) A flight engineer must perform the duties of a flight engineer under the supervision of a check airman or a qualified flight engineer a number of hours acceptable to the DGAC.

(e) A flight attendant must for a number of hours acceptable to the DGAC perform the assigned duties of a flight attendant under the supervision of a flight attendant supervisor qualified under this part who personally observes the performance of these duties. However, operating experience is not required for a flight attendant who has previously acquired such experience on any large passenger-carrying airplane of the same group, if the certificate holder shows that the flight attendant has received sufficient ground training for the airplane in which the flight attendant is to serve. Flight attendants receiving operating experience may not be assigned as a required crewmember. Flight attendants who have satisfactorily completed training time acquired in an approved training program conducted in a full-scale (except for length) cabin training device of the type airplane in which they are to serve may substitute this time for hours required by this paragraph.

121.435 [Reserved]

121.437 Pilot Qualification: Certificates Required

(a) No pilot may act as pilot in command of an aircraft unless he holds an airline transport pilot certificate and an appropriate type rating for that aircraft.

(b) Each pilot who acts as a pilot in a capacity other than those specified in Paragraph (a) of this section must hold at least a commercial pilot certificate and an instrument rating.

121.438 Pilot Operating Limitations and Pairing Requirements

(a) If the second in command has less than 100 hours of flight time as second in command in operations under this part in the type airplane being flown, and the pilot in command is not an appropriately qualified check pilot, the pilot in command must make all takeoffs and landings in the following situations:
   (1) At special airports designated by the Director or at special airports designated by the certificate holder; and
   (2) In any of the following conditions:
      (i) The prevailing visibility value in the latest weather report for the airport is at or below 1 Kilometer
      (ii) The runway visual range (if reported) for the runway to be used is at or below 1,500 meters
      (iii) The runway to be used has water, snow, slush or similar conditions that may adversely affect airplane performance.
      (iv) The braking action on the runway to be used is reported to be less than "good".
      (v) The crosswind component for the runway to be used is in excess of 15 knots.
      (vi) Windshear is reported in the vicinity of the airport.
      (vii) Any other condition in which the PIC determines it to be prudent to exercise the PIC's prerogative.

(b) No person may conduct operations under this part unless, for that type airplane, either the pilot in command or the second in command has at least 75 hours of line operating flight time, either as pilot in command or second in command. The

Director may, upon application by the certificate holder, authorize deviations from the requirements of this Paragraph (b) by an appropriate amendment to the operations specifications in any of the following circumstances:

(1) A newly certificated certificate holder does not employ any pilots who meet the minimum requirements of this paragraph.

(2) An existing certificate holder adds to its fleet a type airplane not before proven for use in its operations.

(3) An existing certificate holder establishes a new domicile to which it assigns pilots who will be required to become qualified on the airplanes operated from that domicile.

121.439 Pilot Qualification: Recent Experience

(a) No certificate holder may use any person nor may any person serve as a required pilot flight crewmember, unless within the preceding 90 days, that person has made at least three takeoffs and landings in the type airplane in which that person is to serve. The takeoffs and landings required by this paragraph may be performed in a visual simulator approved under Section 121.407 to include takeoff and landing maneuvers. In addition, any person who fails to make the three required takeoffs and landings within any consecutive 90 day period must re-establish recency of experience as provided in Paragraph (b) of this section.

(b) In addition to meeting all applicable training and checking requirements of this part, a required pilot flight crewmember who has not met the requirements of Paragraph (a) of this section must re-establish recency of experience as follows:

(1) Under the supervision of a check airman, make at least three takeoffs and landings in the type airplane in which that person is to serve or in an advanced simulator or visual simulator. When a visual simulator is used, the requirements of Paragraph (c) of this section must be met.

(2) The takeoffs and landings required in Paragraph (b)(1) of this section must include:

(i) At least one takeoff with a simulated failure of the most critical powerplant;

(ii) At least one landing from an ILS approach to the lowest ILS minimum authorized for the certificate holder; and

(iii) At least one landing to a full stop.

(c) A required pilot flight crewmember who performs the maneuvers prescribed in Paragraph (b) of this section in a visual simulator must:

(1) Have previously logged 100 hours of flight time in the same type airplane in which he is to serve;

(2) Be observed on the first two landings made in operations under this part by an approved check airman who acts as pilot in command and occupies a pilot seat. The landings must be made in weather minimums that are not less than those contained in the certificate holder's operations specifications for Category I Operations, and must be made within 45 days following completion of simulator training.

(d) When using a simulator to accomplish any of the requirements of Paragraph (a) or (b) of this section, each required flight crewmember position must be occupied by an appropriately qualified person and the simulator must be operated as if in a

normal in-flight environment without use of the repositioning features of the simulator.

(e) A check airman who observes the takeoffs and landings prescribed in Paragraphs (b)(1) and (c) of this section shall certify that the person being observed is proficient and qualified to perform flight duty in operations under this part and may require any additional maneuvers that are determined necessary to make this certifying statement.

121.440 Line Checks

(a) No certificate holder may use any person nor may any person serve as pilot in command of an airplane unless, within the preceding 12 calendar months, that person has passed a line check in which he satisfactorily performs the duties and responsibilities of a pilot in command in one of the types of airplanes he is to fly.

(b) A pilot in command line check for domestic, flag and supplemental air carrier pilots must:

(1) Be given by a pilot check airman who is currently qualified on both the route and the airplane; and

(2) Consist of at least one flight over a typical part of the air carrier's route, or over a foreign or national airway, or over a direct route.

121.441 Proficiency and Competency Checks

(a) No certificate holder may use any person nor may any person serve as a required pilot, flight engineer, and flight navigator unless that person has satisfactorily completed a proficiency check, as follows:

(1) For a pilot in command, proficiency check within the preceding 6 calendar months;

(2) For other pilots, flight engineer and flight navigator a proficiency a check within preceding 12 calendar months.

(b) Except as provided in Paragraphs (c) and (d) of this section, a proficiency check must meet the following requirements:

(1) It must include at least the procedures and maneuvers set forth in by the Director;

(2) It must be given by the DGAC or a pilot check airman.

(c) An approved airplane simulator or other appropriate training device may be used in the conduct of a proficiency check.

(d) If the pilot being checked fails any of the required maneuvers, the person giving the proficiency check may give additional training to the pilot during the course of the proficiency check. In addition to repeating the maneuvers failed, the person giving the proficiency check may require the pilot being checked to repeat any other maneuvers he finds are necessary to determine the pilot's proficiency. If the pilot being checked is unable to demonstrate satisfactory performance to the person conducting the check, the certificate holder may not use him nor may he serve in operations under this part until he has satisfactorily completed a proficiency check. However, the entire proficiency check (other than the initial second in command proficiency check) required by this section may be conducted in an approved visual simulator if the pilot being checked accomplishes at least two landings in the

appropriate airplane during a line check or other check conducted by a pilot check airman (a pilot in command may observe and certify the satisfactory accomplishment of these landings by a second in command). If a pilot proficiency check is conducted in accordance with this paragraph, the next required proficiency check for that pilot must be conducted in the same manner, or a course of training in an airplane visual simulator under Section 121.409 may be substituted therefor.

(e) In the case of a flight attendant and flight operations officer a competency check shall be valid to the first day of the twenty fifth - (25) month following the month in which the CC was taken.

(f) An approved company check pilot who has been delegated the authority to perform flight checks on that aircraft type, or a DGAC inspector shall conduct any pilot proficiency check required by this Subpart. The Director or a person acceptable to him, shall conduct all other checks required by this Subpart. An air carrier shall submit to the Director for approval, a list of proposed examiners including their qualifications relevant to their position as examiners.

(g) For the purposes of completing any check required by this subpart, where an aircraft type simulator has been approved for training;

(1) in the cases of a PPC required by Subsections (a)(1) and (2) of this section, the same credits given the simulator for training purposes shall apply to the PPC;

(2) In the case of the CC required by this section, the same training credits given to that cabin training device, shall apply to the CC.

(h) Where any flight simulator, or other training device approved for training and checking, does not have all the training and checking credits needed to complete the entire check, the portions of such check not approved to be completed in a simulator, must be carried out in that type of aircraft, as appropriate.

(i) Where a pilot proficiency check, a competency check or annual training is renewed within the last 60 days of its validity period, such check or training is deemed to have taken place on the last day of the validity period.

(j) The Director may extend the validity period of a pilot proficiency check, a competency check or annual training by up to 60 days where the Director is of the opinion that aviation safety is not likely to be affected.

(k) Where the validity period of a pilot proficiency check or a competency check of annual training has been expired for 24 months or more, the person shall re-qualify by meeting all initial training requirements relating to that aircraft.

121.443 Pilot in Command Qualification: Route and Airports

(a) Each certificate holder shall provide a system acceptable to the Director for disseminating the information required by Paragraph (b) of this section to the pilot in command and appropriate flight operation personnel. The system must also provide an acceptable means for showing compliance with Section 121.445.

(b) No certificate holder may use any person, nor may any person serve, as pilot in command unless the certificate holder has provided that person current information concerning the following subjects pertinent to the areas over which that person is to serve, and to each airport and terminal area into which that person is to operate, and ensures that that person has adequate knowledge of, and the ability to use, the information:

(1) Weather characteristics appropriate to the season.

(2) Navigation facilities.
(3) Communication procedures, including airport visual aids.
(4) Kinds of terrain and obstructions.
(5) Minimum safe flight levels.
(6) Enroute and terminal area arrival and departure procedures, holding procedures and authorized instrument approach procedures for the airports involved.
(7) Congested areas and physical layout of each airport in the terminal area in which the pilot will operate.
(8) Notices to Airmen.

121.445 Pilot in Command Airport Qualification: Special Areas and Airports

(a) The Director may determine that certain airports (due to items such as surrounding terrain, obstructions, or complex approach or departure procedures) are special airports requiring special airport qualifications and that certain areas or routes, or both, require a special type of navigation qualification.

(b) Except as provided in Paragraph (c) of this section, no certificate holder may use any person, nor may any person serve, as pilot in command to or from an airport determined to require special airport qualifications unless, within the preceding 12 calendar months:
(1) The pilot in command or second in command has made an entry to that airport (including a takeoff and landing) while serving as a pilot flight crewmember; or
(2) The pilot in command has qualified by using pictorial means acceptable to the Director for that airport.

(c) No certificate holder may use any person, nor may any person serve, as pilot in command between terminals over a route or area that requires a special type of navigation qualification unless, within the preceding 12 calendar months, that person has demonstrated qualification on the applicable navigation system in a manner acceptable to the Director, by one of the following methods:
(1) By flying over a route or area as pilot in command using the applicable special type of navigation system;
(2) By flying over a route or area as pilot in command under the supervision of a check airman using the special type of navigation system.

121.447 Flight Attendant Qualifications

(a) No air carrier shall assign and no person shall act in the capacity of a flight attendant on an aircraft, unless that person:
(1) is the holder of a flight attendant certificate endorsed for the type of aircraft on which such person is to act;
(2) has successfully completed the air carrier's approved course of training and checking appropriate to that type of aircraft as prescribed in Subpart N of this part; and
(3) is other wise qualified in accordance with this subpart, except;
(4) in the case of a person performing flight attendant duties pursuant to Part 135.101(c).

121.453 Flight Engineer Qualifications

(a) No certificate holder may use any person serve as a flight engineer on an airplane unless, within the preceding 6 calendar months, he has had at least 50 hours of flight time as a flight engineer on that type airplane or the certificate holder or the Director has checked him on that type airplane and determined that he is familiar and competent with all essential current information and operating procedures.

(b) A flight check given in accordance with Section 121.425 (a) (2) satisfies the requirements of Paragraph (a) of this section.

121.455 [Reserved]

121.457 [Reserved]

121.458 [Reserved]

121.459 [Reserved]

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SUBPART P - FLIGHT OPERATIONS OFFICER QUALIFICATIONS AND DUTY TIME LIMITATIONS: DOMESTIC AND FLAG AIR CARRIERS; FLIGHT ATTENDANT DUTY PERIOD LIMITATIONS AND REST REQUIREMENTS: DOMESTIC, FLAG, AND SUPPLEMENTAL AIR CARRIERS

121.461 Applicability

This subpart prescribes:

(a) Qualifications and duty time limitations for flight operations officers for domestic and flag air carriers; and

(b) Duty period limitations and rest requirements for flight attendants used in air transportation by domestic, flag, and supplemental air carriers.

121.463 Flight Operations Officer Qualifications

(a) No certificate holder conducting domestic or flag operations; may use any person, nor may any person serve, as an aircraft dispatcher for a particular airplane group unless that person has, with respect to an airplane of that group, satisfactorily completed the following:

(1) Initial flight operations officer training, except that a person who has satisfactorily completed such training for another type airplane of the same group need only complete the appropriate transition training.

(2) Operating familiarization consisting of a number of observing operations under this part from the flight deck or, for airplanes without an observer seat on the flight deck, from a forward passenger seat with headset or speaker.

(b) No certificate holder conducting domestic or flag operations may use any person, nor may any person serve, as a flight operations officer unless within the preceding 12 calendar months he has satisfactorily completed operating familiarization consisting of observing operations from the flight deck operations under this part in one of the types of airplanes in each group he is to dispatch.

(c) No certificate holder conducting domestic or flag operations may use any person, nor may any person serve as a flight operations officer to dispatch airplanes in operations under this part unless the certificate holder has determined that he is familiar with all essential operating procedures for that segment of the operation over which he exercises dispatch jurisdiction. However, a flight operations officer who is qualified to dispatch airplanes through one segment of an operation may dispatch airplanes through other segments of the operation after coordinating with flight operations officers who are qualified to dispatch airplanes through those other segments.

(d) For the purposes of this section, the airplane groups, terms, and definitions in Section 121.400 apply.

121.465 Duty Time Limitations: Domestic and Flag Air Carriers

(a) Each domestic and flag air carrier shall establish the daily duty period for a flight operations officer so that it begins at a time that allows him to become thoroughly

familiar with existing and anticipated weather conditions along the route before he dispatches any airplane. He shall remain on duty until each airplane dispatched by him has completed its flight, or has gone beyond his jurisdiction, or until he is relieved by another qualified flight operations officer.

(b) Except in cases where circumstances or emergency conditions beyond the control of the air carrier require otherwise:

(1) No domestic or flag air carrier may schedule a flight operations officer for more than 10 consecutive hours of duty;

(2) If a flight operations officer is scheduled for more than 10 hours of duty in 24 consecutive hours, the carrier shall provide him a rest period of at least eight hours at or before the end of 10 hours of duty.

(3) Each flight operations officer must be relieved of all duty with the air carrier for at least 24 consecutive hours during any seven consecutive days or for the equivalent time period within any calendar month.

121.467 Flight Attendant Duty Period Limitations and Rest Requirements: Domestic, Flag, and Supplemental Air Carriers

(a) For purposes of this section:

"Calendar day" means the period of elapsed time, using Coordinated Universal Time or local time, that begins at midnight and ends 24 hours later at the next midnight.

"Duty period" means the period of elapsed time between reporting for an assignment involving flight time and release from that assignment by the domestic, flag, or supplemental air carrier. The time is calculated using either Coordinated Universal Time or local time to reflect the total elapsed time.

"Rest period" means the period free of all restraint or duty for a domestic, flag, or supplemental air carrier and free of all responsibility for work or duty should the occasion arise.

(b) Except as provided in Paragraph (c) of this section, a domestic, flag, or supplemental air carrier may assign a duty period to a flight attendant only when the applicable duty period limitations and rest requirements of this paragraph are met.

(1) Except as provided in Paragraphs (b)(4), (b)(5), and (b)(6) of this section, no domestic, flag, or supplemental air carrier or commercial operator may assign a flight attendant to a scheduled duty period of more than 14 hours.

(2) Except as provided in Paragraph (b)(3) of this section, a flight attendant scheduled to a duty period of 14 hours or less as provided under Paragraph (b)(1) of this section must be given a scheduled rest period of at least 9 consecutive hours. This rest period must occur between the completion of the scheduled duty period and the commencement of the subsequent duty period.

(3) The rest period required under Paragraph (b)(2) of this section may be scheduled or reduced to 8 consecutive hours if the flight attendant is provided a subsequent rest period of at least 10 consecutive hours; this subsequent rest period must be scheduled to begin no later than 24 hours after the beginning of the reduced rest period and must occur between the completion of the scheduled duty period and the commencement of the subsequent duty period.

(4) A domestic, flag, or supplemental air carrier may assign a flight attendant to a scheduled duty period of more than 14 hours, but no more than 16 hours, if the air carrier has assigned to the flight or flights in that duty period at least one flight attendant in addition to the minimum flight attendant complement required for the flight or flights in that duty period under the air carrier's operations specifications.

(5) A domestic, flag, or supplemental air carrier may assign a flight attendant to a scheduled duty period of more than 16 hours, but no more than 18 hours, if the air carrier has assigned to the flight or flights in that duty period at least two flight attendants in addition to the minimum flight attendant complement required for the flight or flights in that duty period under the air carrier's operations specifications.

(6) A domestic, flag, or supplemental air carrier may assign a flight attendant to a scheduled duty period of more than 18 hours, but no more than 20 hours, if the scheduled duty period includes one or more flights that land or take off outside Indonesian airspace, and if the air carrier has assigned to the flight or flights in that duty period at least three flight attendants in addition to the minimum flight attendant complement required for the flight or flights in that duty period under the domestic air carrier's operations specifications.

(7) Except as provided in Paragraph (b)(8) of this section, a flight attendant scheduled to a duty period of more than 14 hours but no more than 20 hours, as provided in Paragraphs (b)(4), (b)(5), and (b)(6) of this section, must be given a scheduled rest period of at least 12 consecutive hours. This rest period must occur between the completion of the scheduled duty period and the commencement of the subsequent duty period.

(8) The rest period required under Paragraph (b)(7) of this section may be scheduled or reduced to 10 consecutive hours if the flight attendant is provided a subsequent rest period of at least 14 consecutive hours; this subsequent rest period must be scheduled to begin no later than 24 hours after the beginning of the reduced rest period and must occur between the completion of the scheduled duty period and the commencement of the subsequent duty period.

(9) Notwithstanding Paragraphs (b)(4), (b)(5), and (b)(6) of this section, if a domestic, flag, or supplemental air carrier elects to reduce the rest period to 10 hours as authorized by Paragraph (b)(8) of this section, the air carrier may not schedule a flight attendant for a duty period of more than 14 hours during the 24-hour period commencing after the beginning of the reduced rest period.

(10) No domestic, flag, or supplemental air carrier may assign a flight attendant any duty period with the air carrier unless the flight attendant has had at least the minimum rest required under this section.

(11) No domestic, flag, or supplemental air carrier may assign a flight attendant to perform any duty with the air carrier during any required rest period.

(12) Time spent in transportation, not local in character, that a domestic, flag, or supplemental air carrier requires of a flight attendant and provides to transport the flight attendant to an airport at which that flight attendant is to serve on a flight as a crewmember, or from an airport at which the flight attendant was relieved from duty to return to the flight attendant's home station, is not considered part of a rest period.

(13) Each domestic, flag, or supplemental air carrier must relieve each flight attendant engaged in air transportation from all further duty for at least 24 consecutive hours during any 7 consecutive calendar days.

(14) A flight attendant is not considered to be scheduled for duty in excess of duty period limitations if the flights to which the flight attendant is assigned are scheduled and normally terminate within the limitations but due to circumstances beyond the control of the domestic, flag, or supplemental air carrier (such as adverse weather conditions) are not at the time of departure expected to reach their destination within the scheduled time.

(c) Notwithstanding Paragraph (b) of this section, a domestic, flag, or supplemental air carrier may apply the flight crewmember flight time and duty limitations and rest requirements of this part to flight attendants for all operations conducted under this part provided that:

(1) The certificate holder establishes written procedures that:

(i) Apply to all flight attendants used in the certificate holder's operation;

(ii) Include the flight crewmember requirements contained in Subpart Q of this part, as appropriate to the operation being conducted, except that rest facilities on board the aircraft are not required;

(iii) Include provisions to add one flight attendant to the minimum flight attendant complement for each flight crewmember who is in excess of the minimum number required in the aircraft type certificate data sheet and who is assigned to the aircraft under the provisions of Subpart Q as applicable, of this part;

(iv) Are approved by the Director and are described or referenced in the certificate holder's operations specifications; and

(2) Whenever the Director finds that revisions are necessary for the continued adequacy of the written procedures that are required by Paragraph (c)(1) of this section and that had been granted final approval, the certificate holder must, after notification by the Director, make any changes in the procedures that are found necessary by the Director. Within 30 days after the certificate holder receives such notice, it may file a petition to reconsider the notice with the DGAC. The filing of a petition to reconsider stays the notice, pending decision by the Director. However, if the Director finds that an emergency requires immediate action in the interest of safety, the Director may, upon a statement of the reasons, require a change effective without stay.

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121.470. Applicability

This subpart prescribes flight time limitations and rest requirements for flag, domestic and supplemental operations.

121.471. Flight Time Limitations and Rest Requirements: All Crewmembers

(a) Each air carrier shall relieve each flight crewmember engaged in scheduled air transportation from all further duty for at least 24 consecutive hours during any 7 consecutive days.

(b) An air carrier may not assign a flight crewmember and a flight crewmember may not accept assignment to any duty with the air carrier during any required rest period.

(c) Time spent in transportation that an air carrier requires of a flight crewmember and provides to transport the crewmember to an airport at which he is to serve on a flight as a crewmember, or from an airport at which he was relieved from duty to return to his home station, is not considered part of a rest period.

121.472. Duty Time Limitations: All Crewmembers

(a) Except as provided in paragraphs (c), (d) and (e) of this section an air carrier may not assign a flight crewmember and a flight crew member may not accept an assignment where the flight crewmember's flight duty time in any 24 consecutive hours will exceed 14 hours. For any aircraft that requires a flight engineer as part of the crew, a crewmember's flight duty time may be extended to 15 hours.

(b) Flight duty time is defined as the time between the time the crewmember reports for duty until the termination of the flight-

(c) Where a flight crew is augmented by the addition of one pilot, flight duty time may be extended beyond 14 hours up to 16 hours if:
  (1) A passenger seat for the off-duty pilot is available in the passenger compartment;
  (2) The additional pilot occupies a flight deck observer seat during take-off and landing;
  (3) The maximum flight deck duty time for any pilot is 12 hours; and
  (4) Two hours are added to the required rest period prior to the next flight duty period

(d) Where rest is taken during a flight duty period, flight duty time may be extended beyond the 14 hours in Paragraph (a) of this section if:
  (1) The air carrier provides the flight crewmember with advance notice of the split flight duty time;
  (2) One-third of the flight duty time precedes the rest period;
  (3) A rest period of at least four hours in suitable accommodation is provided;
  (4) The flight crew member's rest is not interrupted by the air carrier during the rest period;

(5) The flight duty time is extended by one-half the length of the rest period referred to in (d)(3)), to a maximum of three hours; and

(6) The required rest period following the split flight duty time and prior to the next flight duty period is increased by an amount equal to the extension to the flight duty time.

(e) Where a flight crew is augmented by the addition of at least one pilot and a flight relief facility is provided, flight duty time may be extended beyond the 14 hours in Paragraph (a) of this section if:

(1) The flight relief facility is classified as a "flight relief facility-seat", and it meets the requirements of the DGAC, the flight duty time may be extended to 17 hours, in which case the maximum flight deck duty time for any pilot is 12 hours or;

(2) The flight relief facility is classified as a "flight relief facility-bunk", and it meets the requirements of the DGAC, the flight duty time may be extended to 20 hours, in which case the maximum flight deck duty time for any pilot is 14 hours;

(3) A rest period equal to the length of the previous flight duty period shall be provided prior to the next flight duty period, which shall be at least 12 hours; and

(4) The maximum number of sectors that may be completed is three.

(f) Domestic Air Carrier; Notwithstanding the limitations prescribed in this section, where unforeseen operational circumstances occur beyond air carrier control, a flight duty period may be extended by up to 3 consecutive hours provided that:

(1) the crew rest following the time overrun shall be extended by at least the amount of time equivalent to the overrun,

(2) the flight crewmembers involved are of the opinion that flight safety will not be adversely effected by the extended duty, and

(3) the PIC submits a full report on the delays or circumstances surrounding the extension.

121.475. Crewmembers on Reserve

Where a crewmember is required to standby on reserve status, that crewmember must be given an opportunity to received not less than 8 consecutive hours of prone rest within each 24 hour reserve period, and;

(a) during which rest period there has been no contact from the carrier, and

(b) the crewmember has been given not less than 24 hours notice as to when that rest period has been scheduled.

121.481. Flight Time Limitations and Rest Requirements: Two Pilot Crews

(a) An air carrier may schedule a pilot to fly in an airplane that has a crew of two pilots for nine hours or less during any 24 consecutive hours without a rest period during these nine hours.

(b) An air carrier may not schedule a flight crewmember and a flight crewmember may not accept an assignment for flight time in air transportation or in other commercial flying if that crewmember's total flight time in all commercial flying will exceed:

(1) 1,050 hours in any calendar year;

(2) 110 hours in any calendar month;

(3) 30 hours in any 7 consecutive days;

(c) An air carrier may not schedule a flight crewmember and a flight crewmember may not accept an assignment for flight time during the 24 consecutive hours preceding the scheduled completion of any flight segment without a scheduled rest period during that 24 hours of at least 9 consecutive hours of rest for 9 hours or less of scheduled flight time.

121.483. Flight Time Limitations: Two Pilots and One Additional Flight Crewmember

(a) No flag or supplemental air carrier may schedule a pilot to fly, in an airplane that has a crew of two pilots and at least one additional flight crewmember, for a total of more than 12 hours during any 24 consecutive hours.
(b) If a pilot has flown 20 or more hours during any 48 consecutive hours or 24 or more hours during any 72 consecutive hours, he must be given at least 18 hours of rest before being assigned to any duty with the air carrier. In any case, he must be given at least 24 consecutive hours of rest during any seven consecutive days.
(c) No pilot may fly as a flight crewmember more than:
(1) 120 hours during any 30 consecutive days;
(2) 300 hours during any 90 consecutive days; or
(3) 1,050 hours during any 12 calendar month period.

121.485. Flight Time limitations: Three or more Pilots and an Additional Flight Crewmember

(a) Each air carrier shall schedule its flight hours to provide adequate rest periods on the ground for each pilot who is away from his base and who is a pilot on an airplane that has a crew of three or more pilots and an additional flight crewmember. It shall also provide adequate sleeping quarters on the airplane whenever a pilot is scheduled to fly more than 12 hours during any 24 consecutive hours.
(b) Each air carrier shall give each pilot, upon return to his base from any flight or series of flights, a rest period that is at least twice the total number of hours he flew since the last rest period at his base. During the rest period required by this paragraph, the air carrier may not require him to perform any duty for it. If the required rest period is more than seven days, that part of the rest period in excess of seven days may be given at any time before the pilot is again scheduled for flight duty on any route.
(c) No pilot may fly as a flight crewmember more than:
(1) 120 hours during any 30 consecutive days;
(2) 350 hours during any 90 consecutive days; or
(3) 1,050 hours during any 12 calendar month period.
(d) If half the crewmembers flight time during any 90 consecutive days is as part of a crew composed of two pilots and one additional crewmember then that crewmember is limited to 300 hours in any 90 consecutive days.

121.489. Flight Time Limitations: Other Commercial Flying

No pilot that is employed as a pilot by an air carrier may do any other commercial flying if that commercial flying plus his flying in air transportation will exceed any flight time limitation in this part.

121.493. Flight Time Limitations: Flight Engineers and Flight Navigators

(a) In any operation in which one flight engineer or flight navigator is required, the flight time limitations in Section 121.483 apply to that flight engineer or flight navigator.

(b) In any operation in which more than one flight engineer or flight navigator is required, the flight time limitations in Section 121.483 apply to those flight engineers or flight navigators.

121.495. Flight time limitations: Deadhead transportation: airplanes.

Time spent by a crewmember in deadhead transportation to or from a duty assignment is not considered to be part of any rest period.

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121.500 Applicability

This Subpart prescribes the rules for cabin safety applicable to all persons on board aircraft and air carriers operating under this Part.

121.501 Compliance with Briefings or Safety Instructions and Carriage of Weapons

(a) Each person on board an aircraft shall comply with the briefings and safety instructions given to them by any person assigned to act as a crewmember on board that aircraft, or any sign or placard posted for that purpose of giving such safety instructions.

(b) No air carrier shall allow any person to have, nor may any person have, on or about his or her property, a deadly or dangerous weapon, either concealed or unconcealed, accessible to him or her while on board an aircraft.

(c) For the purpose of this section, weapon means firearm, explosives or any other dangerous devices, which may be used to commit an act of unlawful interference.

121.502 Crewmember Requirements at Stops where Passengers Remain on Board

At stops where passengers remain on board, the certificate holder must meet the following requirements:

(a) On each airplane for which a flight attendant is not required by Section 121.391(a), the certificate holder must ensure that a person who is qualified in the emergency evacuation procedures for the airplane, as required in Section 121.417, and who is identified to the passengers, remains:
   (1) On board the airplane; or
   (2) Nearby the airplane, in a position to adequately monitor passenger safety, and:
      (i) The airplane engines are shut down; and
      (ii) At least one floor level exit remains open to provide for the deplaning of passengers.

(b) On each airplane for which flight attendants are required by Section 121.391(a), but the number of flight attendants remaining on board is fewer than required by Section 121.391(a), the certificate holder must meet the following requirements:
   (1) The certificate holder shall ensure that:
      (i) The airplane engines are shut down;
      (ii) At least one floor level exit remains open to provide for the deplaning of passengers; and
      (iii) the number of flight attendants on board is at least half the number required by Section 121.391(a), rounded down to the next lower number in the case of fractions, but never fewer than one.
   (2) The certificate holder may substitute for the required flight attendants other persons qualified in the emergency evacuation procedures for that aircraft as required in Section 121.417, if these persons are identified to the passengers.

(3) If only one flight attendant or other qualified person is on board during a stop, that flight attendant or other qualified person shall be located in accordance with the certificate holder's DGAC-approved operating procedures. If more than one flight attendant or other qualified person is on board, the flight attendants or other qualified persons shall be spaced throughout the cabin to provide the most effective assistance for the evacuation in case of an emergency.

121.503 Briefing Passengers before Takeoff

(a) Each certificate holder operating a passenger-carrying airplane shall ensure that all passengers are orally briefed by the appropriate crewmember as follows:

(1) Before each takeoff, on each of the following:

(i) Smoking. Each passenger shall be briefed on when, where, and under what conditions smoking is prohibited. This briefing shall include a statement that the Civil Aviation Safety Regulations require passenger compliance with the lighted passenger information signs, posted placards, areas designated for safety purposes as no smoking areas, and crewmember instructions with regard to these items. The briefing shall also include a statement that Indonesian regulations prohibit tampering with, disabling, or destroying any smoke detector in an airplane lavatory; smoking in lavatories; and, when applicable, smoking in passenger compartments.

(ii) The location of emergency exits.

(iii) The use of safety belts, including instructions on how to fasten and unfasten the safety belts. Each passenger shall be briefed on when, where, and under what conditions the safety belt must be fastened about that passenger. This briefing shall include a statement that the Civil Aviation Safety Regulations require passenger compliance with lighted passenger information signs and crewmember instructions concerning the use of safety belts.

(iv) The location and use of any required emergency flotation means.

(v) On operations that do not use a flight attendant, the following additional information:

(A) The placement of seat backs in an upright position before takeoff and landing.

(B) Location of survival equipment.

(C) If the flight involves operations above 12,000 MSL, the normal and emergency use of oxygen.

(D) Location and operation of fire extinguisher.

(2) After each takeoff, immediately before or immediately after turning the seat belt sign off, an announcement shall be made that passengers should keep their seat belts fastened, while seated, even when the seat belt sign is off.

(3) Except as provided in Paragraph (a)(4) of this section, before each takeoff a required crewmember assigned to the flight shall conduct an individual briefing of each person who may need the assistance of another person to move expeditiously to an exit in the event of an emergency. In the briefing the required crewmember shall;

(i) Brief the person and his attendant, if any, on the routes to each appropriate exit and on the most appropriate time to begin moving to an exit in the event of an emergency; and

(ii) Inquire of the person and his attendant, if any, as to the most appropriate manner of assisting the person so as to prevent pain and further injury.

(4) The requirements of Paragraph (a)(3) of this section do not apply to a person who has been given a briefing before a previous leg of a flight in the same aircraft when the crewmembers on duty have been advised as to the most appropriate manner of assisting the person so as to prevent pain and further injury.

(b) Each certificate holder shall carry on each passenger-carrying airplane, in convenient locations for use of each passenger, printed cards supplementing the oral briefing and containing;

(1) Diagrams of, and methods of operating, the emergency exits; and

(2) Other instructions necessary for use of emergency equipment.

Each card required by this paragraph must contain information that is pertinent only to the type and model airplane used for that flight.

(c) The certificate holder shall describe in its manual the procedure to be followed in the briefing required by Paragraph (a) of this section.

121.504 Briefing Passengers: Extended Overwater Operations

(a) In addition to the oral briefing required by Section 121.503(a), each certificate holder operating an airplane in extended overwater operations shall ensure that all passengers are orally briefed by the appropriate crewmember on the location and operation of life preservers, life rafts, and other flotation means, including a demonstration of the method of donning and inflating a life preserver.

(b) The certificate holder shall describe in its manual the procedure to be followed in the briefing required by Paragraph (a) of this section.

(c) If the airplane proceeds directly over water after takeoff, the briefing required by Paragraph (a) of this section must be done before takeoff.

(d) If the airplane does not proceed directly over water after takeoff, no part of the briefing required by Paragraph (a) of this section has to be given before takeoff, but the entire briefing must be given before reaching the overwater part of the flight.

121.505 Stowage of food, beverage, and passenger service equipment during airplane movement on the surface, takeoff, and landing

(a) No certificate holder may move an airplane on the surface, takeoff, or land when any food, beverage, or tableware furnished by the certificate holder is located at any passenger seat.

(b) No certificate holder may move an airplane on the surface, takeoff, or land unless each food and beverage tray and seat back tray table is secured in its stowed position.

(c) No certificate holder may permit an airplane to move on the surface, takeoff, or land unless each passenger serving cart is secured in its stowed position.

(d) No certificate holder may permit an airplane to move on the surface, takeoff, or land unless each movie screen that extends into an aisle is stowed.

(e) Each passenger shall comply with instructions given by a crewmember with regard to compliance with this section.

121.507 Retention of items of mass in passenger and crew compartments

The certificate holder must provide and use means to prevent each item of galley equipment and each serving cart, when not in use, and each item of crew baggage, which is carried in a passenger or crew compartment from becoming a hazard by shifting under the appropriate load factors corresponding to the emergency landing conditions under which the airplane was type certificated.

121.509 Carry-on Baggage

(a) No certificate holder may allow the boarding of carry-on baggage on an airplane unless each passenger's baggage has been scanned to control the size and amount carried on board in accordance with an approved carry-on baggage program in its operations specifications. In addition, no passenger may board an airplane if his/her carry-on baggage exceeds the baggage allowance prescribed in the carry-on baggage program in the certificate holder's operations specifications.

(b) No certificate holder may allow all passenger entry doors of an airplane to be closed in preparation for taxi or pushback unless at least one required crewmember has verified that each article of baggage is stowed in accordance with this section and Section 121.511 (c) of this Part.

(c) No certificate holder may allow an airplane to takeoff or land unless each article of baggage is stowed:

(1) In a suitable closet or baggage or cargo stowage compartment placarded for its maximum weight and providing proper restraint for all baggage or cargo stowed within, and in a manner that does not hinder the possible use of any emergency equipment; or

(2) As provided in this part; or Section 121.511 (c).

(3) Under a passenger seat.

(d) Baggage, other than articles of loose clothing, may not be placed in an overhead rack unless that rack is equipped with approved restraining devices or doors.

(e) Each passenger must comply with instructions given by crewmembers regarding compliance with Paragraphs (a), (b), (c), (d), and (g) of this section.

(f) Each passenger seat under which baggage is allowed to be stowed shall be fitted with a means to prevent articles of baggage stowed under it from sliding forward. In addition, each aisle seat shall be fitted with a means to prevent articles of baggage stowed under it from sliding sideward into the aisle under crash impacts severe enough to induce the ultimate inertia forces specified in the emergency landing condition regulations under which the airplane was type certified.

(g) In addition to the methods of stowage in Paragraph (c) of this section, flexible travel canes carried by blind individuals may be stowed:

(1) Under any series of connected passenger seats in the same row, if the cane does not protrude into an aisle and if the cane is flat on the floor; or

(2) Between a non emergency exit window seat and the fuselage, if the cane is flat on the floor; or

(3) Beneath any two non emergency exit window seats, if the cane is flat on the floor; or

(4) In accordance with any other method approved by the Director.

121.511 Carriage of cargo in passenger compartments

(a) Except as provided in Paragraph (b), or (c) of this section, no certificate holder may carry cargo in the passenger compartment of an airplane.

(b) Cargo may be carried anywhere in the passenger compartment if it is carried in an approved cargo bin that meets the following requirements:

(1) The bin must withstand the load factors and emergency landing conditions applicable to the passenger seats of the airplane in which the bin is installed, multiplied by a factor of 1.15, using the combined weight of the bin and the maximum weight of cargo that may be carried in the bin.

(2) The maximum weight of cargo that the bin is approved to carry and any instructions necessary to ensure proper weight distribution within the bin must be conspicuously marked on the bin.

(3) The bin may not impose any load on the floor or other structure of the airplane that exceeds the load limitations of that structure.

(4) The bin must be attached to the seat tracks or to the floor structure of the airplane, and its attachment must withstand the load factors and emergency landing conditions applicable to the passenger seats of the airplane in which the bin is installed, multiplied by either the factor 1.15 or the seat attachment factor specified for the airplane, whichever is greater, using the combined weight of the bin and the maximum weight of cargo that may be carried in the bin.

(5) The bin may not be installed in a position that restricts access to or use of any required emergency exit, or of the aisle in the passenger compartment.

(6) The bin must be fully enclosed and made of material that is at least flame resistant.

(7) Suitable safeguards must be provided within the bin to prevent the cargo from shifting under emergency landing conditions.

(8) The bin may not be installed in a position that obscures any passenger's view of the "seat belt" sign, "no smoking" sign, or any required exit sign, unless an auxiliary sign or other approved means for proper notification of the passenger is provided.

(c) Cargo may be carried aft of a bulkhead or divider in any passenger compartment provided the cargo is restrained to the load factors in Section 25.561(b)(3) and is loaded as follows:

(1) It is properly secured by a safety belt or other tie down having enough strength to eliminate the possibility of shifting under all normally anticipated flight and ground conditions.

(2) It is packaged or covered in a manner to avoid possible injury to passengers and passenger compartment occupants.

(3) It does not impose any load on seats or the floor structure that exceeds the load limitation for those components.

(4) Its location does not restrict access to or use of any required emergency or regular exit, or of the aisle in the passenger compartment.

(5) Its location does not obscure any passenger's view of the "seat belt" sign, "no smoking" sign, or required exit sign, unless an auxiliary sign or other approved means for proper notification of the passenger is provided.

121.513 [Reserved]

121.515 [Reserved]

121.517 Alcoholic beverages

(a) No person may drink any alcoholic beverage aboard an aircraft unless the certificate holder operating the aircraft has served that beverage to him.
(b) No certificate holder may serve any alcoholic beverage to any person aboard any of its aircraft who:
  (1) Appears to be intoxicated;
  (2) Is escorting a person or being escorted for security purposes or
  (3) Is authorized to carry and has a deadly or dangerous weapon accessible to him while aboard the aircraft.
(c) No certificate holder may allow any person to board any of its aircraft if that person appears to be intoxicated.
(d) Each certificate holder shall, within five days after the incident, report to the Director the refusal of any person to comply with Paragraph (a) of this section, or of any disturbance caused by a person who appears to be intoxicated aboard any of its aircraft.

121.519 [Reserved]

121.521 [Reserved]

121.523 Emergency and emergency evacuation duties.

Each air carrier shall, for each type and model of airplane, assigned to each category of required crewmember as appropriate, the necessary functions to be performed in an emergency or a situation requiring emergency evacuation. The air carrier shall show those functions are realistic, can be practically accomplished, and will meet any reasonably anticipated emergency, including the possible incapacitation of individual crewmembers or their inability to reach the passenger cabin because of shifting cargo in combination cargo/ passenger airplanes.

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121.531 Applicability

This subpart prescribes requirements for flight operations applicable to all certificate holders, except where otherwise specified.

121.533 Responsibility for Operational Control

(a) Each air carrier is responsible for operational control.
(b) The pilot in command and the flight operations officer or director of operations are jointly responsible for the preflight planning, delay, and dispatch release of a flight in compliance with the CASRs and operations specifications.
(c) The flight operations officer or director of operations is responsible for
  (1) Monitoring the progress of each flight;
  (2) Issuing necessary information for the safety of the flight; and
  (3) Canceling or re-dispatching a flight if, in his opinion or the opinion of the pilot in command, the flight cannot operate or continue to operate safely as planned or released.
(d) Each pilot in command of an aircraft is, during flight time, in command of the aircraft and crew and is responsible for the safety of the passengers, crewmembers, cargo, and airplane.
(e) Each pilot command has full control and authority in the operation of the aircraft, without limitation, over other crewmembers and their duties during flight time, whether or not he holds valid certificates authorizing him to perform the duties of those crewmembers.
(f) No pilot may operate an aircraft in a careless or reckless manner so as to endanger life or property.

121.535 [Reserved]

121.537 Alcohol or Drugs

No person may act or attempt to act as a crewmember of a civil aircraft in contravention of CASR Part 91.17 and Part 91.19.

121.538 Airplane Security

(a) Each air carrier shall establish a security program which shall:
  (1) Provide for the safety of persons and property traveling with the air carrier against acts of unlawful interference;
  (2) Prohibit unauthorized access to the aircraft
  (3) Ensure that baggage carried in the airplane is checked by a responsible agent and that identification is obtained from persons, other than Regulated Agent, shipping goods or cargo aboard the airplane

(4) Ensure that cargo and checked baggage carried aboard the aircraft is handled in a manner that prohibits unauthorized access;
(5) Require a security inspection of the airplane before placing it in service and after it has been left unattended;
(6) Be in writing signed by the air carrier or any person delegated authority in this matter;
(7) Be approved by the Director General

(b) For the purposes of this section;
(1) Security Program means measures adopted to safeguard international civil aviation against acts of unlawful interference.
(2) Regulated Agent means an agent, freight forwarder or any other entity who conducts business with an operator and provides security controls that are accepted or required by the appropriate authority in respect of cargo, courier and express parcels or mail.

121.539 Operations Notices

Each certificate holder shall notify its appropriate operations personnel of each change in equipment and operating procedures, including each known change in the use of navigation aids, airports, air traffic control procedures and regulations, local airport traffic control rules, and known hazards to flight, including icing and other potentially hazardous meteorological conditions and irregularities in ground and navigation facilities.

121.541 Operations Schedules: Domestic and Flag Air Carriers

In establishing flight operations schedules, each domestic and flag air carrier shall allow enough time for the proper servicing of aircraft at intermediate stops, and shall consider the prevailing winds enroute and the cruising speed of the type of aircraft used. This cruising speed may not be more than that resulting from the specified cruising output of the engines.

121.542 Flight Crewmember Duties

(a) No certificate holder shall require nor may any flight crewmember perform, any duties during a critical phase of flight except those duties required for the safe operation of the aircraft. Duties such as company required calls made for such non-safety related purposes as ordering galley supplies and conforming passenger connections, announcements made to passengers promoting the air carrier or pointing out sights of interest, and filling out company payroll and related records are not required for the safe operation of the aircraft.

(b) No flight crewmember may engage in, nor may any pilot in command permit, any activity during critical phase of flight which could distract any flight crewmember from the performance of his or her duties or which could interfere in any way with the proper conduct of those duties. Activities such as eating meals, engaging in nonessential conversations within the cockpit and nonessential communications between the cabin and cockpit crew, and reading publications not related to the proper conduct of the flight are not required for the safe operation of the aircraft.

c) For the purposes of this section, a critical phase of flight is defined as any period of flight time including ground operations where it could reasonably be expected that the safe operation of the aircraft, requires the full attention and or participation of all flight crewmembers.
Note: "Taxi" is defined as "movement" of an airplane under its own power on the surface of an airport.

21.543 Flight Crewmember at Controls

a) Except as provided in Paragraph (b) of this section, each required flight crewmember on flight deck duty must remain at the assigned duty station with seat belt and shoulder straps fastened while the aircraft is taking off or landing. On other phases of the flight, all flight crewmembers shall keep their seat belt fastened when at their stations.

b) A required flight crewmember may leave the assigned duty station
   (1) If the crewmember's absence is necessary for the performance of duties in connection with the operation of the aircraft;
   (2) If the crewmember's absence is in connection with physiological needs; or
   (3) If the crewmember is taking a rest period, and relief is provided by an appropriately rated pilot for that portion of the flight.

21.545 Manipulation of Controls

No pilot in command may allow any person to manipulate the controls of an aircraft during flight nor may any person manipulate the controls during flight unless that person

a) A qualified pilot of the certificate holder operating that aircraft.
b) An authorized pilot safety representative of the Director who has the permission of the plot in command, is qualified in the aircraft, and is checking flight operations; or
c) A pilot of another certificate holder who has the permission of the pilot in command, is qualified in the aircraft, and is authorized by the certificate holder operating the aircraft.

21.547 Admission to Flight Deck

a) No person may admit any person to the flight deck of an aircraft unless the person being admitted is
   (1) A crewmember;
   (2) A DGAC air carrier inspector, or an authorized representative of the Director, who is performing official duties;
   (3) An employee of the Indonesian government, a certificate holder, or an aeronautical enterprise who has the permission of the pilot in command and whose duties are such that admission to the flight deck is necessary or advantageous for safe operations; or
   (4) Any person who has the permission of the pilot in command and is specially authorized by the certificate holder management and by the Director.

Paragraph (a)(2) of this section does not limit the emergency authority of the pilot in command to exclude any person from the flight deck in the interest of safety.

(b) For the purposes of paragraph (a) (3) of this section, employees of the Indonesian government who deal responsibility with matters relating to safety and employees of the certificate holder whose efficiency would be increased by familiarity with flight conditions, may be admitted by the certificate holder. However, the certificate holder may not admit employees of traffic, sales, or other departments that are not directly related to flight operations, unless they are eligible under Paragraph (a).(4) of this section.

(c) No person may admit any person to the flight deck unless there is a seat available for his use in the passenger compartment, except

(1) A DGAC air carrier inspector or an authorized representative of the Director who is checking or observing flight operations;

(2) An air traffic controller who is authorized by the Director to observe ATC procedures;

(3) A certificated airman employee by the certificate holder whose duties require an airman certificate;

(4) A certificate airman employed by another certificate holder whose duties with that carrier require an airman certificate and who is authorized by the certificate holder operating the aircraft to make specific trips over a route;

(5) An employee of the certificate holder operating the aircraft whose duty is directly related to the conduct or planning of flight operations or the in-flight monitoring of aircraft equipment or operating procedures, if his presence on the flight deck is necessary to perform his duties and he has been authorized in writing by a responsible supervisor, listed in the Operations Manual as having that authority; and

(6) A technical representative of the manufacturer of the aircraft or its component whose duties are directly related to the in-flight monitoring of aircraft equipment or operating procedures, if his presence on the flight deck is necessary to perform his duties, and he has been authorized in writing by the Director and by a responsible supervisor of the operations department of the certificate holder, listed in the Operation Specifications as having that authority.

121.548 Aviation Safety Inspector's Credentials: Admission to Pilot's Compartment

Whenever in performing the duties of conducting an inspection, an inspector of the DGAC presents his identification credentials to the pilot in command of an aircraft operated by an air carrier or commercial operator, the inspector must be given free and uninterrupted access to the pilot's compartment of that aircraft.

121.549 Flying Equipment

(a) The pilot in command shall ensure that appropriate aeronautical charts containing adequate information concerning navigation aids and instrument approach procedures are aboard the aircraft for each flight.

(b) Each crewmember shall, on each flight, have readily available for his use a flash light that is in good working order.

121.549 [Reserved]

121.551 Restriction or Suspension of Operation

When an air carrier knows of conditions, including airport and runway conditions, that are hazard to safe operation, it shall restrict or suspend operation until those conditions are corrected.

121.553 [Reserved]

121.555 Compliance with approved routes and limitations

No pilot may operate an airplane in scheduled air transportation:

(a) Over any route or route segment unless it is specified in the air carrier's operations specifications; or

(b) Other than in accordance with the limitations in the operations specifications.

121.557 Emergencies

(a) In an emergency situation that requires immediate decision and action the pilot in command may take any action that he considers necessary under the circumstances. In such a case he may deviate from prescribed operations procedures and methods, weather minimums, and the CASRs, to the extent required in the interests of safety.

(b) In an emergency situation arising during flight that requires immediate decision and action by the flight operations officer or director of operations, and that is known to him, he shall advise the pilot in command of the emergency, shall ascertain the decision of the pilot in command, and shall have the decision recorded. If the flight operations officer or director of flight operations cannot communicate with the pilot, he shall declare an emergency and take any action that he considers necessary under the circumstances.

(c) Whenever a pilot in command or flight operations officer or director of operations exercises emergency authority, he shall keep the appropriate ATC facility and dispatch centers fully informed of the progress of the flight. The person declaring the emergency shall send a written report of any deviation through the air carrier's operations manager, to the Director. A flight operations officer or director of operations shall send his report within 10 days after the date of the emergency, and a pilot in command shall send his report within 10 days after returning to his home base.

121.559 [Reserved]

121.561 Reporting potentially hazardous meteorological conditions and irregularities of ground and navigation facilities

(a) Whenever he encounters a meteorological condition or an irregularity in a ground or navigational facility, in flight, the knowledge of which he considers essential to the safety of other flights, the pilot in command shall notify an appropriate ground station as soon as practicable.

(b) The ground radio station that is notified under Paragraph (a) of this section shall report the information to the agency directly responsible for operating the facility.

121.563 Reporting Mechanical Irregularities

The pilot in command shall ensure that all mechanical irregularities occurring during flight time are entered in the maintenance log of the airplane at the end of that flight time. Before each flight the pilot in command shall ascertain the status of each irregularity entered in the log at the end of the preceding flight.

121.565 Engine Inoperative: Landing; Reporting

(a) Except as provided in Paragraph (b) of this section, whenever an engine of an airplane fails or whenever the rotation of an engine is stopped to prevent possible damage, the pilot in command shall land the airplane at the nearest suitable airport, in point of time, at which a safe landing can be made.

(b) If not more than one engine of an airplane that has three or more engines fails or its rotation is stopped, the pilot in command may proceed to an airport that he selects if, after considering the following, he decides that proceeding to that airport is as safe as landing at the nearest suitable airport:
   (1) The nature of the malfunction and the possible mechanical difficulties that may occur if flight is continued.
   (2) The altitude, weight, and usable fuel at the time of engine stoppage.
   (3) The weather conditions enroute and at possible landing points.
   (4) The air traffic congestion.
   (5) The kind of terrain.
   (6) His familiarity with the airport to be used.

(c) The pilot in command shall report each stoppage of engine rotation in flight to the appropriate ground radio station as soon as practicable and shall keep that station fully informed of the progress of the flight.

(d) If the pilot in command lands at an airport other than the nearest suitable airport, in point of time, he shall (upon completing the trip) send a written report, in duplicate, to his operations manager (or director of operations in the case of a supplemental air carrier or commercial operator) stating his reasons for determining that his selection of an airport, other than the nearest airport, was as safe a course of action as landing at the nearest suitable airport. The operations manager or director of operations shall, within 10 days after the pilot returns to his home base, send a copy of this report with his comments to the DGAC.

121.567 Instrument Approach Procedures and IFR Landing Minimums

No person may make an instrument approach at an airport except in accordance with IFR weather minimums and instrument approach procedures set forth in the certificate holder's operations specifications.

121.569 Equipment Interchange: Domestic and Flag Air Carriers

(a) Before operating under an interchange agreement, each domestic and flag air carrier shall show that:
   (1) The procedures for the interchange operation conform with the CASRs and with safe operating practices;
   (2) Required crewmembers and flight operations officers meet approved training requirements for the airplanes and equipment to be used and are familiar with the communications and dispatch procedures to be used;
   (3) Maintenance personnel meet training requirements for the airplanes and equipment, and are familiar with the maintenance procedures to be used;
   (4) Flight crewmembers and flight operations officers meet appropriate route and airport qualifications; and
   (5) The airplanes to be operated are essentially similar to the airplanes of the air carrier with whom the interchange is effected with respect to the arrangement of flight instruments and the arrangement and motion of controls that are critical to safety unless the Director determines that the air carrier has adequate training programs to ensure that any potentially hazardous dissimilarities are safely overcome by flight crew familiarization.

(b) Each domestic and flag air carrier shall include the pertinent provisions and procedures involved in the equipment interchange agreement in its manuals.

121.570 Airplane Evacuation Capability

(a) No person may cause an airplane carrying passengers to be moved on the surface, takeoff, or land unless each automatically deployable emergency evacuation assisting means, installed in accordance with Section 121.310(a), is ready for evacuation.

(b) Each certificate holder shall ensure that, at all times passengers are on board prior to airplane movement on the surface, at least one floor-level exit provides for the egress of passengers through normal or emergency means.

121.571 [Reserved]

121.573 [Reserved]

121.574 Oxygen for Medical Use by Passengers

(a) A certificate holder may allow a passenger to carry and operate equipment for the storage, generation, or dispensing of oxygen when the following conditions are met:

(1) The equipment is.

(i) Furnished by the certificate holder;

(ii) Of an approved type or is in conformity with the manufacturing, packaging, marking, labelling, and maintenance requirements of the CASRs.

(iii) Maintained by the certificate holder in accordance with an approved maintenance program;

(iv) Free of flammable contaminants on all exterior surfaces;

(v) Capable of providing a minimum mass flow of oxygen to the user of four litters per minute;

(vi) Constructed so that all valves, fittings, and gauges are protected from damage; and

(vii) Appropriately secured.

(2) When the oxygen is stored in the form of a liquid, the equipment has been under the certificate holder's approved maintenance program since its purchase new or since the storage container was last purged.

(3) When the oxygen is stored in the form of a compressed gas:

(i) The equipment has been under the certificate holder's approved maintenance program since its purchase new or since the last hydrostatic test of the storage cylinder; and

(ii) The pressure in any oxygen cylinder does not exceed the rated cylinder pressure.

(4) Each person using the equipment has a medical need to use it evidenced by a written statement to be kept in that person's possession, signed by a licensed physician which specifies the maximum quantity of oxygen needed each hour and the maximum flow rate needed for the pressure altitude corresponding to the pressure in the cabin of the airplane under normal operating conditions. This paragraph does not apply to the carriage of oxygen in an airplane in which the only passengers carried are persons who may have a medical need for oxygen during flight, no more than one relative or other interested person for each of those persons, and medical attendants.

(5) When a physician's statement is required by Paragraph (a)(4) of this section, the total quantity of oxygen carried is equal to the maximum quantity of oxygen needed each hour, as specified in the physician's statement, multiplied by the number of hours used to compute the amount of airplane fuel required by this part.

(6) The pilot in command is advised when the equipment is on board, and when it is intended to be used.

(7) The equipment is stowed, and each person using the equipment is seated, so as not to restrict access to or use of any required emergency, or regular exit or of the aisle in the passenger compartment.

(b) No person may, and no certificate holder may allow any person to, smoke within 10 feet of oxygen storage and dispensing equipment carried in accordance with Paragraph (a) of this section.

:) Nc certificate holder may allow any person to connect or disconnect oxygen dispensing equipment, to or from a gaseous oxygen cylinder while any passenger is aboard the airplane.

l) The requirements of this section do not apply to the carriage of supplemental or first aid oxygen and related equipment required by the CASRs.

?1.575 [Reserved]

?1.576 [Reserved]

'1.577 [Reserved]

!1.578 [Reserved]

'1.579 Minimum Altitudes for Use of Autopilot

) Enroute operations. Except as provided in Paragraphs (b) and (c) of this section, no person may use an autopilot enroute, including climb and descent, at an altitude above the terrain that is less than twice the maximum altitude loss specified in the Airplane Flight Manual for a malfunction of the autopilot under cruise conditions, or less than 500 feet, whichever is higher.

Approaches. When using an instrument approach facility, no person may use an autopilot at an altitude above the terrain that is less than twice the maximum altitude loss specified in the Airplane Flight Manual for a malfunction of the autopilot under approach conditions, or less than 50 feet below the approved minimum descent altitude or decision height for the facility, whichever is higher, except:

(1) When reported weather conditions are less than the basic VFR weather conditions in Section 91.155 of the CASRs, no person may use an autopilot with an approach coupler for ILS approaches at an altitude above the terrain that is less than 50 feet higher than the maximum altitude loss specified in the Airplane Flight Manual for the malfunction of the autopilot with approach coupler under approach conditions; and

(2) When reported weather conditions are equal to or better than the basic VFR minimums in Section 91.155 of the CASRs, no person may use an autopilot with an approach coupler for ILS approaches at an altitude above the terrain that is less than the maximum altitude loss specified in the Airplane Flight Manual for the malfunction of the autopilot with approach coupler under approach conditions, or 50 feet, whichever is higher.

Notwithstanding Paragraph (a) or (b) of this section, the Director issues operations specifications to allow the use, to touchdown, of an approved flight control guidance system with automatic capability, in any case in which:

(1) The system does not contain any altitude loss (above zero) specified in the Airplane Flight Manual for malfunction of the autopilot with approach coupler; and

(2) He finds that the use of the system to touchdown will not otherwise affect the safety standards required by this section.

121.581 Observer's Seat: Enroute Inspections

(a) Except as provided in Paragraph (c) of this section, each certificate holder shall make available a seat on the flight deck of each airplane, used by it in air commerce, for occupancy by the Director while conducting en route inspections. The location and equipment of the seat, with respect to its suitability for use in conducting en route inspections, is determined by the Director.

(b) In each airplane that has more than one observer's seat, in addition to the seats required for the crew complement for which the airplane was certificated, the forward observer's seat or the observer's seat selected by the Director must be made available when complying with Paragraph (a) of this section.

(c) For any airplane type certificated before December 20, 1995 for not more than 30 passengers that does not have an observer seat on the flight deck, the certificate holder must provide a forward passenger seat with headset or speaker for occupancy by the Director while conducting en route inspections. Notwithstanding the requirements of Section 121.587, the cockpit door, if required, may remain open during such inspections.

121.583 [Reserved]

121.585 Exit seating

(a) Certificate holders shall make the following determinations and designations:

(1) Each certificate holder shall determine, to the extent necessary to perform the applicable functions of Paragraph (d) of this section, the suitability of each person it permits to occupy an exit seat, in accordance with this section. For the purpose of this section:

(i) Exit seat means:

(A) Each seat having direct access to an exit; and,

(B) Each seat in a row of seats through which passengers would have to pass to gain access to an exit, from the first seat inboard of the exit to the first aisle inboard of the exit.

(ii) A passenger seat having "direct access" means a seat from which a passenger can proceed directly to the exit without entering an aisle or passing around an obstruction.

(2) Each certificate holder shall make the passenger exit seating determinations required by this paragraph in a non-discriminatory manner consistent with the requirements of this section, by persons designated in the certificate holder's required operations manual.

(3) Each certificate holder shall designate the exit seats for each passenger seating configuration in its fleet in accordance with the definitions in this paragraph and submit those designations for approval as part of the procedures required to be submitted for approval under Paragraphs (n) and (p) of this section.

(b) No certificate holder may seat a person in a seat affected by this section if the certificate holder determines that it is likely that the person would be unable to perform one or more of the applicable functions listed in Paragraph (d) of this section because:

(1) The person lacks sufficient mobility, strength, or dexterity in both arms and hands, and both legs;

(i) To reach upward, sideways, and downward to the location of emergency exit and exit-slide operating mechanism;

(ii) To grasp and push, pull, turn, or otherwise manipulate those mechanisms;

(iii) To push, shove, pull, or otherwise open emergency exits;

(iv) To lift out, hold, deposit on nearby seats, or maneuver over the seatbacks to the next row objects the size and weight of overwing window exit doors;

(v) To remove obstructions similar in size and weight to overwing exit doors;

(vi) To reach the emergency exit expeditiously;

(vii) To maintain balance while removing obstructions;

(viii) To exit expeditiously;

(ix) To stabilize an escape slide after deployment; or

(x) To assist others in getting off an escape slide;

(2) The person is less than 15 years of age or lacks the capacity to perform one or more of the applicable functions listed in Paragraph (d) of this section without the assistance of an adult companion, parent, or other relative;

(3) The person lacks the ability to read and understand instructions required by this section and related to emergency evacuation provided by the certificate holder in printed or graphic form or the ability to understand oral crew commands.

(4) The person lacks sufficient visual capacity to perform one or more of the applicable functions in Paragraph (d) of this section without the assistance of visual aids beyond contact lenses or eyeglasses;

(5) The person lacks sufficient aural capacity to hear and understand instructions shouted by flight attendants, without assistance beyond a hearing aid;

(6) The person lacks the ability adequately to impart information orally to other passengers; or,

(7) The person has.

i. A condition or responsibilities, such as caring for small children that might prevent the person from performing one or more of the applicable functions listed in Paragraph (d) of this section; or

ii. A condition that might cause the person harm if he or she performs one or more of the applicable functions listed in Paragraph (d) of this section.

(c) Each passenger shall comply with instructions given by a crewmember or other authorized employee of the certificate holder implementing exit seating restrictions established in accordance with this section.

(d) Each certificate holder shall include on passenger information cards, presented in the language in which briefings and oral commands are given by the crew, at each exit seat affected by this section, information that, in the event of an emergency in which a crewmember is not available to assist, a passenger occupying an exit seat may use if called upon to perform the following functions:

(1) Locate the emergency exit;

(2) Recognize the emergency exit opening mechanism;

(3) Comprehend the instructions for operating the emergency exit;
(4) Operate the emergency exit;
(5) Assess whether opening the emergency exit will increase the hazards to which passengers may be exposed;
(6) Follow oral directions and hand signals given by a crewmember;
(7) Stow or secure the emergency exit door so that it will not impede use of the exit;
(8) Assess the condition of an escape slide, activate the slide, and stabilize the slide after deployment to assist others in getting off the slide;
(9) Pass expeditiously through the emergency exit; and
(10) Assess, select, and follow a safe path away from the emergency exit.

(e) Each certificate holder shall include on passenger information cards, at each exit seat:

(1) In the primary language in which emergency commands are given by the crew, the selection criteria set forth in Paragraph (b) of this section, and a request that a passenger identify himself or herself to allow reseating if he or she:

(i) Cannot meet the selection criteria set forth in Paragraph (b) of this section;

(ii) Has a non-discernible condition that will prevent him or her from performing the applicable functions listed in Paragraph (d) of this section;

(iii) May suffer bodily harm as the result of performing one or more of those functions; or,

(iv) Does not wish to perform those functions; and,

(2) In the language used by the certificate holder for passenger information cards, a request that a passenger identify himself or herself to allow reseating if he or she lacks the ability to read, speak, or understand the language or the graphic form in which instructions required by this section and related to emergency evacuation are provided by the certificate holder, or the ability to understand the specified language in which crew commands will be given in an emergency.

A certificate holder shall not require the passenger to disclose his or her reason for needing reseating.

(f) Each certificate holder shall make available for inspection by the public at all passenger loading gates and ticket counters at each airport where it conducts passenger operations, written, procedures established for making determinations in regard to exit row seating.

(g) No certificate holder may allow taxi or pushback unless at least one required crewmember has verified that no exit seat is occupied by a person the crewmember determines is likely to be unable to perform the applicable functions listed in Paragraph (d) of this section.

(h) Each certificate holder shall include in its passenger briefings a reference to the passenger information cards, required by Paragraphs (d) and (e), the selection criteria set forth in Paragraph (b), and the functions to be performed, set forth in Paragraph (d) of this section.

(i) Each certificate holder shall include in its passenger briefings a request that a passenger identify himself or herself to allow reseating if he or she:

(1) Cannot meet the selection criteria set forth in Paragraph (b) of this section;

(2) Has a non-discernible condition that will prevent him or her from performing the applicable functions listed in Paragraph (d) of this section;

(3) May suffer bodily harm as the result of performing one or more of those functions listed in Paragraph (d) of this section; or,

(4) Does not wish to perform those functions listed in Paragraph (d) of this section.

A certificate holder shall not require the passenger to disclose his or her reason for needing reseating.

(j) [Reserved]

(k) In the event a certificate holder determines in accordance with this section that it is likely that a passenger assigned to an exit seat would be unable to perform the functions listed in Paragraph (d) of this section or a passenger requests a non-exit seat, the certificate holder shall expeditiously relocate the passenger to a non-exit seat.

(l) In the event of full booking in the non-exit seats and if necessary to accommodate a passenger being relocated from an exit seat, the certificate holder shall move a passenger who is willing and able to assume the evacuation functions that may be required, to an exit seat.

(m) A certificate holder may deny transportation to any passenger under this section only because:

(1) The passenger refuses to comply with instructions given by a crewmember or other authorized employee of the certificate holder implementing exit seating restrictions established in accordance with this section, or

(2) The only seat that will physically accommodate the person's handicap is an exit seat.

(n) In order to comply with is section certificate holders shall:

(1) Establish procedures that address:

(i) The criteria listed in Paragraph (b) of this section;

(ii) The functions listed in Paragraph (d) of this section;

(iii) The requirements for airport information, passenger information cards, crewmember verification of appropriate seating in exit seats, passenger briefings, seat assignments, and denial of transportation as set forth in this section;

(iv) How to resolve disputes arising from implementation of this section, including identification of the certificate holder employee on the airport to whom complaints should be addressed for resolution; and,

(2) Submit their procedures for preliminary review and approval to the principal operations inspectors assigned to them at the DGAC.

(o) Certificate holders shall assign seats prior to boarding consistent with the criteria listed in Paragraph (b) and the functions listed in Paragraph (d) of this section, to the maximum extent feasible.

(p) The procedures required by Paragraph (n) of this section will not become effective until final approval is granted by the Director. Approval will be based solely upon the safety aspects of the certificate holder's procedures.

121.583 [Reserved]

121.587 Closing and Locking of Flight Crew Compartment Door

(a) Except as provided in Paragraph (b) of this section, a pilot in command of an airplane that has a lockable flight crew compartment door in accordance with Section 121.313 and that is carrying passengers shall ensure that the door separating the flight crew compartment from the passenger compartment is closed and locked during flight.

(b) The provisions of Paragraph (a) of this section do not apply:

(1) During takeoff and landing if the crew compartment door is the means of access to a required passenger emergency exit or a floor-level exit; or

(2) At any time that it is necessary to provide access to the flight crew or passenger compartment, to a crewmember in the performance of his duties or for a person authorized admission to the flight crew compartment under Section 121.547.

(3) When a jumpseat is being used by persons authorized under Section 121.547 in airplanes in which closing and locking the flight crew compartment door is impossible while the jumpseat is in use.

121.589 [Reserved]

121.590 Use of Certificated Land Airports

Except as authorized by the Director, no air carrier, and no pilot being used by an air carrier may, in the conduct of operations governed by this part, operate an aircraft into a land airport in Indonesia unless that airport is certificated for operations by the DGAC.

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121.591 Applicability

This subpart prescribes dispatching rules for domestic and flag air carriers and flight release rules for supplemental air carriers.

121.593 [Reserved]

121.595 Dispatching Authority: Domestic and Flag Air Carriers

(a) No person may start a flight unless a flight operations officer specifically authorizes that flight.

(b) No person may continue a flight from an intermediate airport without re-dispatch if the airplane has been on the ground more than six hours.

121.597 Flight Release Authority: Supplemental Air Carriers

(a) No person may start a flight under a flight following system without specific authority from the person authorized by the operator to exercise operational control over the flight.

(b) No person may start a flight unless the pilot in command or the person authorized by the operator to exercise operational control over the flight has executed a flight release setting forth the conditions under which the flights will be conducted. The pilot in command may sign the flight release only when he and the person authorized by the operator to exercise operational control believe that the flight can be made with safety.

(c) No person may continue a flight from an intermediate airport without a new flight release if the aircraft has been on the ground more than six hours.

121.599 Familiarity with Weather Conditions

(a) Domestic and flag air carriers. No flight operations officer may release a flight unless he is thoroughly familiar with reported and forecast weather conditions on the route to be flown.

(b) Supplemental air carriers and commercial operators. No pilot in command may begin a flight unless he is thoroughly familiar with reported and forecast weather conditions on the route to be flown.

121.601 Aircraft Flight Operations Officer Information to Pilot in command: Domestic and Flag Air Carriers

(a) The flight operations officer shall provide the pilot in command all available current reports or information on airport conditions and irregularities of navigation facilities that may affect the safety of the flight.

(b) Before beginning a flight, the flight operations officer shall provide the pilot in command with all available weather reports and forecasts of weather phenomena that may affect the safety of flight, including adverse weather phenomena, such as clear air turbulence, thunderstorms, and low altitude windshear, for each route to be flown and each airport to be used.

(c) During a flight, the flight operations officer shall provide the pilot in command any additional available information of meteorological conditions including adverse weather phenomena, such as clear air turbulence, thunderstorms, and low altitude windshear), and irregularities of facilities and services that may affect the safety of the flight.

121.603 Facilities and Services: Supplemental Air Carriers

(a) Before beginning a flight, each pilot in command shall obtain all available current reports or information on airport conditions and irregularities of navigation facilities that may affect the safety of the flight.

(b) During a flight, the pilot in command shall obtain any additional available information of meteorological conditions and irregularities of facilities and services that may affect the safety of the flight.

121.605 Airplane Equipment

No person may dispatch or release an airplane unless it is airworthy and is equipped as prescribed in Section 121.303.

121.607 Communication and Navigation Facilities: Domestic and Flag Air carriers

(a) Except as provided in Paragraph (b) of this section for flag air carriers, no person may dispatch an airplane over an approved route or route segment unless the communication and navigation facilities required by Sections 121.99 and 121.103 for the approval of that route or segment are in satisfactory operating condition.

(b) If, because of technical reasons or other reasons beyond the control of a flag air carrier, the facilities required by Sections 121.99 and 121.103 are not available over a route or route segment outside Indonesia, the air carrier may dispatch an airplane over that route or route segment if the pilot in command and flight operations officer find that communication and navigation facilities equal to those required are available and are in satisfactory operating condition.

121.609 Communication and Navigation Facilities: Supplemental Air Carriers

No person may release an aircraft over any route or route segment unless communication and navigation facilities equal to those required by Section 121.103 are in satisfactory operating condition.

121.611 Dispatch or Flight Release under VFR

No person may dispatch or release an aircraft for VFR operation unless the ceiling and visibility enroute, as indicated by available weather reports or forecasts, or any

combination of those reports and forecasts, are and will remain at or above applicable VFR minimums until the aircraft arrives at the airport or airports specified in the dispatch or flight release.

121.613 Dispatch or Flight Release under IFR

Except as provided in Section 121.615, no person may dispatch or release an aircraft for operations under IFR, unless appropriate weather reports or forecasts, or any combination of those reports and forecasts, indicate that the weather conditions will be at or above the authorized minimums at the estimated time of arrival at the airport or airports to which dispatched or released.

121.615 Dispatch or Flight Release Over Water

(a) No person may dispatch or release an aircraft for a flight that involves extended overwater operation unless appropriate weather reports or forecasts or any combination of those reports and forecasts, indicate that the weather conditions will be at or above the authorized minimums at the estimated time of arrival at any airport to which dispatched or released or to any required alternate airport.

(b) Each flag and supplemental air carrier and commercial operator shall conduct extended overwater operations under IFR unless it shows that operating under IFR is not necessary for safety.

(c) Each flag and supplemental air carrier and commercial operator shall conduct other overwater operations under IFR if the Director determines that operation under IFR is necessary for safety.

(d) Each authorization to conduct extended overwater operations under VFR and each requirement to conduct other overwater operations under IFR will be specified in the air carrier's or commercial operator's operations specifications.

121.617 Alternate Airport for Departure

(a) If the weather conditions at the airport of takeoff are below the landing minimums in the certificate holder's operations specifications for that airport, no person may dispatch or release an aircraft from that airport unless the dispatch or flight release specifies an alternate airport located within the following distances from the airport of takeoff:

1) Aircraft having two engines. Not more than one hour from the departure airport at normal cruising speed in still air with one engine inoperative.
2) Aircraft having three or more engines. Not more than two hours from the departure airport at normal cruising speed in still air with one engine inoperative.

(b) For the purpose of Paragraph (a) of this section, the alternate airport weather conditions must meet the requirements of the certificate holder's operations specifications.

(c) No person may dispatch or release an aircraft from an airport unless he lists each required alternate airport in the dispatch or flight release.

121.619 Alternate Airport for Destination: IFR: Domestic Air Carriers

(a) No person may dispatch an airplane under IFR unless he lists at least one alternate airport for each destination airport in the dispatch release. When the weather conditions forecast for the destination and first alternate airport are marginal at least one additional alternate must be designated. However, no alternate airport is required if for at least 1 hour before and 1 hour after the estimated time of arrival at the destination airport the appropriate weather reports or forecasts, or any combination of them, indicate:
   (1) The ceiling will be at least 2,000 feet above the airport elevation; and
   (2) Visibility will be at least 5 Kilometers

(b) For the purposes of Paragraph (a) of this section, the weather conditions at the alternate airport must meet the requirements of Section 121.625.

(c) No person may dispatch a flight unless he lists each required alternate airport in the dispatch release.

121.621 Alternate Airport for Destination: Flag Air Carriers

(a) No person may dispatch an airplane under IFR unless he lists at least one alternate airport for each destination airport in the dispatch release, unless:
   (1) The flight is scheduled for not more than 6 hours and, for at least 1 hour before and 1 hour after the estimated time of arrival at the destination airport, the appropriate weather reports or forecasts, or any combination of them, indicate the ceiling will be:
      (i) At least 1,500 feet above the lowest circling MDA, if a circling approach is required and authorized for that airport; or
      (ii) At least 1,500 feet above the lowest published instrument approach minimum or 2,000 feet above the airport elevation, whichever is greater; and
      (iii) The visibility at that airport will be at least 5 Kilometers, or 3 Kilometers more than the lowest applicable visibility minimums, whichever is greater, for the instrument approach procedures to be used at the destination airport; or
   (2) The flight is over a route approved without an available alternate airport for a particular destination airport and the airplane has enough fuel to meet the requirements of Section 121.641(b) or Section 121.645(c).

(b) For the purposes of Paragraph (a) of this section, the weather conditions at the alternate airport must meet the requirements of the air carrier's operations specifications.

(c) No person may dispatch a flight unless he lists each required alternate airport in the dispatch release.

121.623 Alternate Airport for Destination: IFR: Supplemental Air Carriers

(a) Except as provided in Paragraph (b) of this section, each person releasing an aircraft for operation under IFR shall list at least one alternate airport for each destination airport in the flight release.

(b) An alternate airport need not be designated for IFR operations where the aircraft carries enough fuel to meet the requirements of Sections 121.643 and 121.645 for

flights outside Indonesia over routes without an available alternate airport for a particular airport of destination.

(c) For the purposes of Paragraph (a) of this section, the weather requirements at the alternate airport must meet the requirements of the air carrier's or commercial operator's operations specifications.

(d) No person may release a flight unless he lists each required alternate airport in the flight release.

121.623 Alternate Airport Weather Minimums

No person may list an airport as an alternate airport in the dispatch or flight release unless the appropriate weather reports or forecasts, or any combination of those reports and forecasts, indicate that the weather conditions will be at or above the alternate weather minimums specified in the certificate holder's operations specifications for that airport when the flight arrives

121.627 Continuing Flight in Unsafe Conditions

(a) No pilot in command may allow a flight to continue toward any airport to which it has been dispatched or released if, in the opinion of the pilot in command or flight operations officer (domestic and flag air carriers only), the flight cannot be completed safely; unless, in the opinion of the pilot in command, there is no safer procedure. In that event, continuation toward that airport is an emergency situation as set forth in Section 121.557.

(b) If any instrument or item of equipment required under the CASRs for the particular operation becomes inoperative enroute, the pilot in command shall comply with the approved procedures for such an occurrence as specified in the certificate holder's manual.

121.628 Inoperable Instruments and Equipment

(a) A certificate holder operate under this part must have an approved Minimum Equipment List for each type of airplane operated, and.

(1) An approved Minimum Equipment List must be onboard of airplane

(2) The DGAC shall issue the certificate holder operations specifications authorizing operations in accordance with an approved Minimum Equipment List. The flight crew shall have direct access at all times prior to flight to all of the information contained in the approved Minimum Equipment List through printed or other means approved by the Director in the certificate holders operations specifications. An approved Minimum Equipment List as authorized by the operations specifications, constitutes an approved change to the type design without requiring re-certification.

(3) The approved Minimum Equipment List must

i) Be prepared in accordance with the limitations specified in Paragraph (b) of this section.

ii) Provide for the operation of the airplane with certain instruments and equipment in an inoperable condition.

(4) Records identifying the inoperable instruments and equipment and the information required by Paragraph (a)(3)(ii) of this section must be available to the pilot.

(5) The airplane is operated under all applicable conditions and limitations contained in the Minimum Equipment List and the operations specifications authorizing use of the Minimum Equipment List.

(c) The following instruments and equipment may not be included in the Minimum Equipment List:

(1) Instruments and equipment that are either specifically or otherwise required by the airworthiness requirements under which the airplane is type certificated and which are essential for safe operations under all operating conditions.

(2) Instruments and equipment required by an airworthiness directive to be in operable condition unless the airworthiness directive provides otherwise.

(3) Instruments and equipment required for specific operations by this part.

(d) Notwithstanding Paragraphs (b)(1) and (b)(3) of this section, an airplane with inoperable instruments or equipment may be operated under a special flight permit under Sections 21.197 and 21.199 of the CASRs.

121.628A Master Minimum Equipment List

For the purposes of aiding the certificate holder in developing the Minimum Equipment List of 121.628 the aircraft manufacturer should submit a proposed Master Minimum Equipment to the DGAC for approval. The Minimum Equipment List will consist of a sub set of the Master Minimum Equipment List and be specific to the certificate holders type of operation. The proposed Master Minimum Equipment List should be substantiated (by flight tests and or analyses) to insure an acceptable level of safety is maintained.

121.629 Operation in Icing Conditions

(a) No person may dispatch or release an aircraft, continue to operate an aircraft enroute, or land an aircraft when in the opinion of the pilot in command or flight operations officer (domestic and flag air carriers only), icing conditions are expected or met that might adversely affect the safety of the flight.

(b) No person may takeoff an aircraft when frost, ice or snow is adhering to the wings, control surfaces, propellers, engine inlets or other critical surfaces of the aircraft or when the takeoff would not be in compliance with Paragraph (c) of this section. Takeoffs with frost under the wing in the area of the fuel tanks may be authorized by the Director.

(c) Except as provided in Paragraph (d) of this section, no person may dispatch, release, or takeoff an aircraft any time conditions are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft, unless the certificate holder has an approved ground deicing/anti-icing program in its operations specifications and unless the dispatch, release, and takeoff comply with that program. The approved ground deicing/anti-icing program must include at least the following items:

(1) A detailed description of:

(i) How the certificate holder determines that conditions are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft and that ground deicing/anti-icing operational procedures must be in effect;

(ii) Who is responsible for deciding that ground deicing/anti-icing operational procedures must be in effect;
(iii) The procedures for implementing ground deicing/anti-icing operational procedures;
(iv) The specific duties and responsibilities of each operational position or group responsible for getting the aircraft safely airborne while ground deicing/anti-icing operational procedures are in effect.

(2) Initial and annual recurrent ground training and testing for flight crewmembers and qualification for all other affected personnel (e.g., flight operations officers, ground crews, and contract personnel) concerning the specific requirements of the approved program and each person's responsibilities and duties under the approved program, specifically covering the following areas:
(i) The use of holdover times.
(ii) Aircraft deicing/anti-icing procedures, including inspection and check procedures and responsibilities.
(iii) Communications procedures.
(iv) Aircraft surface contamination (i.e., adherence of frost, ice, or snow) and critical area identification, and how contamination adversely affects aircraft performance and flight characteristics.
(v) Types and characteristics of deicing/anti-icing fluids.
(vi) Cold weather preflight inspection procedures.
(vii) Techniques for recognizing contamination on the aircraft.

3. The certificate holder's holdover timetables and the procedures for the use of these tables by the certificate holder's personnel. Holdover time is the estimated time deicing/anti-icing fluid will prevent the formation of frost or ice and the accumulation of snow on the protected surfaces of an aircraft. Holdover time begins when the final application of deicing/anti-icing fluid commences and expires when the deicing/anti-icing fluid applied to the aircraft loses its effectiveness. The holdover times must be supported by data acceptable to the Director. The certificate holder's program must include procedures for flight crewmembers to increase or decrease the determined holdover time in changing conditions. The program must provide that takeoff after exceeding any maximum holdover time in the certificate holder's holdover timetable is permitted only when at least one of the following conditions exists:
(i) A pretakeoff contamination check, as defined in Paragraph (c)(4) of this section, determines that the wings, control surfaces, and other critical surfaces, as defined in the certificate holder's program, are free of frost, ice, or snow;
(ii) It is otherwise determined by an alternate procedure approved by the Director in accordance with the certificate holder's approved program that the wings, control surfaces, and other critical surfaces, as defined in the certificate holder's program, are free of frost, ice, or snow;
(iii) The wings, control surfaces, and other critical surfaces are re-deiced and a new holdover time is determined.

4. Aircraft deicing/anti-icing procedures and responsibilities, pre-takeoff check procedures and responsibilities, and pre-takeoff contamination check procedures and responsibilities. A pre-takeoff check is a check of the aircraft's wings or representative aircraft surfaces for frost, ice, or snow within the aircraft's holdover time. A pre-takeoff contamination check is a check to make

sure the wings, control surfaces, and other critical surfaces, as defined in the certificate holder's program, are free of frost, ice, and snow. It must be conducted within five minutes prior to beginning takeoff. This check must be accomplished from outside the aircraft unless the program specifies otherwise.

(d) A certificate holder may continue to operate under this section without a program as required in Paragraph (c) of this section, if it includes in its operations specifications a requirement that, any time conditions are such that frost, ice, or snow may reasonably be expected to adhere to the aircraft, no aircraft will takeoff unless it has been checked to ensure that the wings, control surfaces, and other critical surfaces are free of frost, ice, and snow. The check must occur within five minutes prior to beginning takeoff. This check must be accomplished from outside the aircraft.

121.631 Original Dispatch or Flight Release, Re-dispatch or Amendment of Dispatch or Flight Release

(a) A certificate holder may specify any airport, authorized for the type of aircraft, as a destination for the purpose of original dispatch or release.

(b) No person may allow a flight to continue to an airport to which it has been dispatched or released unless the weather conditions at an alternate airport that was specified in the dispatch or flight release are forecast to be at or above the alternate minimums specified in the operations specifications for that airport at the time the aircraft would arrive at the alternate airport. However, the dispatch or flight release may be amended enroute to include any alternate airport that is within the fuel range of the aircraft as specified in Sections 121.639 through 121.647.

(c) No person may change an original destination or alternate airport that is specified in the original dispatch or flight release to another airport while the aircraft is enroute unless the other airport is authorized for that type of aircraft and the appropriate requirements of Sections 121.593 through 121.661 and 121.173 are met at the time of re-dispatch or amendment of the flight release.

(d) Each person who amends a dispatch or flight release enroute shall record that amendment.

121.633 [Reserved]

121.635 [Reserved]

121.637 Takeoffs from Unlisted and Alternate Airports

(a) No pilot may takeoff an airplane from an airport that is not listed in the operations specifications unless:

(1) The airport and related facilities are adequate for the operation of the airplane;

(2) He can comply with the applicable airplane operating limitations;

(3) The airplane has been dispatched according to dispatching rules applicable to operation from an approved airport; and

(4) The weather conditions at that airport are equal to or better than the following:

The weather minimums for takeoff prescribed by the DGAC or the CASRs; or where minimums are not prescribed for the airport, 1,000 foot ceiling and 2 Kilometers visibility.

(b) No pilot may takeoff from an alternate airport unless the weather conditions are at least equal to the minimums prescribed in the air carrier's operations specifications for alternate airports.

121.639 Fuel Supply: Turbine Engine Powered Airplanes, Other than Turbo-Propeller: Domestic Operations

No person may release/dispatch or takeoff an airplane for operations within Indonesia unless it has enough fuel:

(a) To fly to the airport to which it is released/dispatched;

(b) Thereafter, to fly to and land at the most distant alternate airport (where required) for the airport to which released/dispatched; and

(c) Thereafter, to fly for 45 minutes at holding speed at 1,500 feet above the alternate airport (or the destination airport if no alternate is required) under standard temperature.

(d) No person may release an airplane to an airport for which an alternate is not specified under Section 121.621(a)(2) or Section 121.623(b) unless it has enough fuel, considering wind and other weather conditions expected, to fly to that airport and thereafter to fly for at least two hours at normal cruising fuel consumption.

121.641 Fuel Supply: Non-turbine and Turbo-propeller Powered Airplanes: International Operations

(a) No person may dispatch or takeoff a non-turbine or turbo-propeller powered airplane unless, considering the wind and other weather conditions expected, it has enough fuel:

(1) To fly to and land at the airport to which it is dispatched;

(2) Thereafter, to fly to and land at the most distant alternate airport specified in the dispatch release; and

(3) Thereafter, to fly for 30 minutes plus 15 percent of the total time required to fly at normal cruising fuel consumption to the airports specified in Paragraphs (a) (1) and (2) of this section or to fly for 90 minutes at normal cruising fuel consumption, whichever is less.

(b) No person may dispatch a non-turbine or turbo-propeller powered airplane to an airport for which an alternate is not specified under Section 121.621(a)(2), unless it has enough fuel, considering wind and forecast weather conditions, to fly to that airport and thereafter to fly for two hours at normal cruising fuel consumption.

121.643 Fuel Supply: Non-turbine and Turbo-propeller-powered Airplanes; Domestic Operations

(a) No person may release for flight or takeoff a non-turbine or turbo-propeller powered airplane unless, considering the wind and other weather conditions expected, it has enough fuel:

(1) To fly to and land at the airport to which it is released;
(2) Thereafter, to fly to and land at the most distant alternate airport specified in the flight release (where required); and
(3) Thereafter, to fly for 45 minutes at holding speed at 1,500 feet above the alternate airport (or the destination airport if no alternate is required) under standard temperature.

(b) No person may release a non-turbine or turbo-propeller powered airplane to an airport for which an alternate is not specified under Section 121.623(b), unless it has enough fuel, considering wind and other weather conditions expected, to fly to that airport and thereafter to fly for two hours at normal cruising fuel consumption.

121.645 Fuel Supply: Turbine Engine Powered Airplanes, Other than Turbo-Propeller: International Operations

(a) For any air carrier operation outside Indonesia, unless authorized by the Director in the operations specifications, no person may release for flight or takeoff a turbine engine powered airplane (other than a turbo-propeller powered airplane) unless, considering wind and other weather conditions expected, it has enough fuel:
(1) To fly to and land at the airport to which it is released;
(2) After that, to fly for a period of 10 percent of the total time required to fly from the airport of departure to, and land at, the airport to which it was released, but provided that this shall not be less than 15 minutes holding consumption at 1500 feet above alternate;
(3) After that, to fly to and land at the most distant alternate airport specified in the flight release, if an alternate is required; and
(4) After that, to fly for 30 minutes at holding speed at 1,500 feet above the alternate airport (or the destination airport if no alternate is required) under standard temperature conditions.

(b) No person may release a turbine engine powered airplane (other than a turbo-propeller airplane) to an airport for which an alternate is not specified under Section 121.621(a)(2) or Section 121.623(b) unless it has enough fuel, considering wind and other weather conditions expected, to fly to that airport and thereafter to fly for at least two hours at normal cruising fuel consumption.

(c) The Director may amend the operations specifications to require more fuel than any of the minimums stated in Paragraph (a) or (b) of this section if he finds that additional fuel is necessary on a particular route in the interest of safety.

121.647 Factors for Computing Fuel Required

Each person computing fuel required for the purposes of this subpart shall consider the following:
(a) Wind and other weather conditions forecast;
(b) Anticipated traffic delays;
(c) One instrument approach and possible missed approach at destination;
(d) Any other conditions that may delay landing of the aircraft.

For the purposes of this section, required fuel is in addition to unusable fuel.

121.649 Takeoff and Landing Weather Minimums: VFR: Domestic Air Carriers

(a) Except as provided in Paragraph (b) of this section, regardless of any clearance from ATC, no pilot may takeoff or land an airplane under VFR for day operations when the reported ceiling or visibility is less than 1,000-foot ceiling and one-mile visibility.

(b) Where a local surface restriction to visibility exists (e.g., smoke, dust, blowing snow or sand) the visibility for day operations may be reduced to one-half (½) mile, if all turns after takeoff and prior to landing, and all flight beyond one mile from the airport boundary can be accomplished above or outside the area of local surface visibility restriction.

(c) The weather minimums in this section do not apply to the VFR operation of fixed wing aircraft at any of the locations where the special weather minimums of Section 91.157 of the CASRs are not applicable (See Part 91, Appendix D, Section 3 of the CASRs). The basic VFR weather minimums of Section 91.155 of the CASRs apply at those locations.

121.651 Takeoff and Landing Weather Minimums: IFR: All Certificate Holders

(a) Notwithstanding any clearance from ATC, no pilot may begin a takeoff in an airplane under IFR when the weather conditions reported by the Badan Meteorologi dan Geofisika (BMG), a source approved by the BMG, or a source approved by the Director, are less than those specified in:
   (1) The certificate holder's operations specifications; or
   (2) Part 91 of CASRs, if the certificate holder's operations specifications do not specify takeoff minimums for the airport.

(b) Except as provided in Paragraph (d) of this section, no pilot may continue an approach past the final approach fix, or where a final approach fix is not used, begin the final approach segment of an instrument approach procedure:
   (1) At any airport, unless the Badan Meteorologi dan Geofisika (BMG) a source approved by the BMG, or a source approved by the Director, issues a weather report for that airport; and
   (2) At airports within Indonesia unless the latest weather report for that airport issued by the Badan Meteorologi dan Geofisika (BMG), a source approved by the BMG, or a source approved by the Director, reports the visibility to be equal to or more than the visibility minimums prescribed for that procedure.

(c) If a pilot has begun the final approach segment of an instrument approach procedure in accordance with Paragraph (b) of this section and after that receives a later weather report indicating below minimum conditions, the pilot may continue the approach to DH or MDA. Upon reaching DH or at MDA, and at any time before the missed approach point, the pilot may continue the approach below DH or MDA and touch down if:
   (1) The aircraft is continuously in a position from which a descent to a landing on the intended runway can be made at a normal rate of descent using normal maneuvers, and where that descent rate will allow touchdown to occur within the touchdown zone of the runway of intended landing;
   (2) The flight visibility is not less than the visibility prescribed in the standard instrument approach procedure being used;

(3) Except for Category II or Category III approaches where any necessary visual reference requirements are specified by authorization of the Director, at least one of the following visual references for the intended runway is distinctly visible and identifiable to the pilot:

(i) The approach light system, except that the pilot may not descend below 100 feet above the touchdown zone elevation using the approach lights as a reference unless the red terminating bars or the red side row bars are also distinctly visible and identifiable.

(ii) The threshold.

(iii) The threshold markings.

(iv) The threshold lights.

(v) The runway end identifier lights.

(vi) The visual approach slope indicator.

(vii) The touchdown zone or touchdown zone markings.

(viii) The touchdown zone lights.

(ix) The runway or runway markings.

(x) The runway lights; and

(4) When the aircraft is on a straight-in non-precision approach procedure which incorporates a visual descent point, the aircraft has reached the visual descent point, except where the aircraft is not equipped for or capable of establishing that point, or a descent to the runway cannot be made using normal procedures or rates of descent if descent is delayed until reaching that point.

(c) For the purpose of this section, the final approach segment begins at the final approach fix or facility prescribed in the instrument approach procedure. When a final approach fix is not prescribed for a procedure that includes a procedure turn, the final approach segment begins at the point where the procedure turn is completed and the aircraft is established inbound toward the airport on the final approach course within the distance prescribed in the procedure.

(e) Unless otherwise authorized in the certificate holder's operations specifications, each pilot making an IFR takeoff, approach, or landing at a foreign airport shall comply with the applicable instrument approach procedures and weather minimums prescribed by the authority having jurisdiction over the airport.

121.652 [Reserved]

121.653 [Reserved]

121.655 Applicability of Reported Weather Minimums

In conducting operations under Sections 121.649 through 121.653, the ceiling and visibility values in the main body of the latest weather report control for VFR and IFR takeoffs and landings and for instrument approach procedures on all runways of an airport. However, if the latest weather report, including an oral report from the control tower, contains a visibility value specified as runway visibility or runway visual range for a particular runway of an airport, that specified value controls for VFR and IFR landings and takeoffs and straight-in instrument approaches for that runway.

121.657 Flight Altitude Rules

(a) General. Notwithstanding Section 91.119 or any rule applicable outside Indonesia, no person may operate an aircraft below the minimums set forth in Paragraphs (b) and (c) of this section, except when necessary for takeoff or landing, or except when, after considering the character of the terrain, the quality and quantity of meteorological services, the navigational facilities available, and other flight conditions, the Director prescribes other minimums for any route or part of a route where he finds that the safe conduct of the flight requires other altitudes. Outside of Indonesia the minimums prescribed in this section are controlling unless higher minimums are prescribed in the air carrier or commercial operator's operations specifications or by the foreign country over which the aircraft is operating.

(b) Day VFR operations. No domestic, flag or supplemental air carrier may operate any aircraft under VFR during the day at an altitude less than 1,000 feet above the surface or less than 1,000 feet from any mountain, hill, or other obstruction to flight.

(c) IFR operations. No person may operate an aircraft under IFR at an altitude less than 1,000 feet above the highest obstacle within a horizontal distance of five miles from the center of the intended course, or, in designated mountainous areas, less than 2,000 feet above the highest obstacle within a horizontal distance of five miles from the center of the intended course.

(d) Day operations below minimum enroute altitudes. A person may conduct day operations in an airplane at flight altitudes lower than the minimum enroute IFR altitudes if:

1) The operation is conducted at least 1,000 feet above the top of lower broken or overcast cloud cover;
2) The top of the lower cloud cover is generally uniform and level;
3) Flight visibility is at least five miles; and
4) The base of any higher broken or overcast cloud cover is generally uniform and level and is at least 1,000 feet above the minimum enroute IFR altitude for that route segment.

121.659 [Reserved]

121.661 Initial Approach Altitude

When making an initial approach to a radio navigation facility under IFR, no person may descend below the pertinent minimum altitude for initial approach (as specified in the instrument approach procedure for that facility) until his arrival over that facility has been definitely established.

121.663 Responsibility for Dispatch Release: Domestic and Flag Air Carriers

Each domestic and flag air carrier shall prepare a dispatch release for each flight between specified points, based on information furnished by an authorized flight operations officer. The pilot in command and an authorized flight operations officer shall sign the release only if they both believe that the flight can be made with safety. The flight operations officer may delegate authority to sign a release for a particular flight, but he may not delegate his authority to dispatch.

121.665 Load Manifest

Each certificate holder is responsible for the preparation and accuracy of a load manifest form before each takeoff. The form must be prepared and signed for each flight by employees of the certificate holder who have the duty of supervising the loading of aircraft and preparing the load manifest forms or by other qualified persons authorized by the certificate holder.

121.667 Flight Plan: VFR and IFR: Supplemental Air Carriers

No person may takeoff an aircraft unless the pilot in command has filed a flight plan, containing the appropriate information required by Part 91, with the nearest DGAC communication station or appropriate military station or, when operating outside Indonesia, with other appropriate authority. However if communications facilities are not readily available, the pilot in command shall file the flight plan as soon as practicable after the aircraft is airborne. A flight plan must continue in effect for all parts of the flight.

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operations officer. It may include any additional available weather reports or forecasts that the pilot in command or the flight operations officer considers necessary or desirable.

(c) The dispatch release must contain, or have attached to it, notification of the pilot in command when there are hazardous materials aboard.

121.689. Flight Release form: Supplemental Air Carriers

(a) Except as provided in Paragraph (c) of this section, the flight release may be in any form but must contain at least the following information concerning each flight:
   (1) Company or organization name.
   (2) Make, model, and registration mark of the aircraft being used.
   (3) Flight or trip number, and date of flight.
   (4) Name of each flight crewmember, flight attendant, and pilot designated as pilot in command.
   (5) Departure airport, destination airports, alternate airports, and route.
   (6) Minimum fuel supply.
   (7) A statement of the type of operation (e.g., IFR, VFR).

(b) The aircraft flight release must contain, or have attached to it, weather reports, available weather forecasts, or a combination of those reports and forecasts, for the destination airport, and alternate airports, that are the latest available at the time the release is signed. It may include any additional available weather reports or forecasts that the pilot in command considers necessary or desirable.

(c) The dispatch release must contain, or have attached to it, notification of the pilot in command when there are hazardous materials aboard.

(d) Each flag or domestic air carrier operating under the rules of this part applicable to supplemental air carriers shall comply with the dispatch or flight release forms required for scheduled operations under this subpart

121.691. [Reserved]

121.693. Load Manifest

The load manifest must contain the following information concerning the loading of the airplane at takeoff time:

(a) The weight of the aircraft, fuel and oil, cargo and baggage, passengers and crewmembers.

(b) The maximum allowable weight for that flight that must not exceed the least of the following weights:
   (1) Maximum allowable takeoff weight for the runway intended to be used including corrections for altitude and gradient, and wind and temperature conditions existing at the takeoff time).
   (2) Maximum takeoff weight considering anticipated fuel and oil consumption that allows compliance with applicable enroute performance limitations.
   (3) Maximum takeoff weight considering anticipated fuel and oil consumption that allows compliance with the maximum authorized design landing weight limitations on arrival at the destination airport.

(4) Maximum takeoff weight considering anticipated fuel and oil consumption that allows compliance with landing distance limitations on arrival at the destination and alternate airports.

(c) The total weight computed under approved procedures.

(d) Evidence that the aircraft is loaded according to an approved schedule that ensures that the center of gravity is within approved limits.

(e) Names of passengers, unless such information is maintained by other means by the air carrier.

121.695. Disposition of Load Manifest, Dispatch Release, and Flight Plans: Domestic and Flag Air Carriers

(a) The pilot in command of an airplane shall carry in the airplane to its destination—
   (1) A copy of the completed load manifest (or information from it, except information concerning cargo and passenger distribution);
   (2) A copy of the dispatch release; and
   (3) A copy of the flight plan.

(b) The air carrier shall keep copies of the records required in this section for at least three months

121.697. Disposition of Load Manifest, Flight Release, and Flight Plans: Supplemental Air Carriers

(a) The pilot in command of an airplane shall carry in the airplane to its destination the original or a signed copy of the:
   (1) Load manifest;
   (2) Flight release;
   (3) Maintenance release;
   (4) Pilot route certification; and
   (5) Flight plan.

(b) If a flight originates at the principal operations base of the air carrier or commercial operator, it shall retain at that base a signed copy of each document listed in Paragraph (a) of this section.

(c) Except as provided in Paragraph (d) of this section, if a flight originates at a place other than the principal operations base of the air carrier, the pilot in command (or another person not aboard the airplane who is authorized by the carrier or operator) shall, before or immediately after departure of the flight, mail signed copies of the documents listed in Paragraph (a) of this section to the principal operations base.

(d) If a flight originates at a place other than the principal operations base of the air carrier and there is at that place a person to manage the flight departure for the air carrier who does not himself depart on the airplane, signed copies of the documents listed in Paragraph (a) of this section may be retained at that place for not more than 30 days before being sent to the principal operations base of the air carrier. However, the documents for a particular flight need not be further retained at that place or be sent to the principal operations base, if the originals or other copies of them have been previously returned to the principal operations base.

(e) The supplemental air carrier shall:
   (1) Identify in its operations manual the person having custody of the copies of documents retained in accordance with Paragraph (d) of this section; and

(2) Retain at its principal operations base either the original or a copy of the records required by this section for at least three months.

121.698. through 121.699. [Reserved]

121.701. Maintenance Log: Aircraft

(a) Each person who takes action in the case of a reported or observed failure or malfunction of an airframe, engine, propeller, or appliance that is critical to the safety of flight shall make, or have made, a record of that action in the airplane's maintenance log.

(b) Each certificate holder shall have an approved procedure for keeping adequate copies of the record required in paragraph (a) of this section in the airplane in a place readily accessible to each flight crewmember and shall put that procedure in the certificate holder's manual.

121.703. Service Difficulty Reports

(a) Each certificate holder shall report the occurrence or detection of each failure, malfunction, or defect concerning:

(1) Fires during flight and whether the related fire warning system functioned properly;
(2) Fires during flight not protected by a related fire warning system;
(3) False fire warning during flight;
(4) An engine exhaust system that causes damage during flight to the engine, adjacent structure, equipment, or components;
(5) An aircraft component that causes accumulation or circulation of smoke, vapor, or toxic or noxious fumes in the crew compartment or passenger cabin during flight;
(6) Engine shutdown during flight because of flameout;
(7) Engine shutdown during flight when external damage to the engine or airplane structure occurs;
(8) Engine shutdown during flight due to foreign object ingestion or icing;
(9) Engine shutdown during flight of more than one engine;
(10) A propeller feathering system or ability of the system to control overspeed during flight;
(11) A fuel or fuel dumping system that affects fuel flow or causes hazardous leakage during flight;
(12) An unwanted landing gear extension or retraction, or an unwanted opening or closing of landing gear doors during flight;
(13) Brake system components that result in loss of brake actuating force when the airplane is in motion on the ground;
(14) Aircraft structure that requires major repair;
(15) Cracks, permanent deformation, or corrosion of aircraft structures, if more than the maximum acceptable to the manufacturer or the DGAC;
(16) Aircraft components or systems that result in taking emergency actions during flight (except action to shut down an engine); and

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Maintenance Organization certificated under the provisions of Subpart C of Part 145, the maintenance release or log entry required paragraph (a) of this section may be signed by a person authorized by that Approved Maintenance Organization. The authorized person shall meet the requirement of ICAO Annex 1.

(c) When a maintenance release form is prepared the certificate holder must give a copy to the pilot in command and must keep a record thereof for at least two months.

(d) Instead of restating each of the conditions of the certification required by paragraph (b) of this section, the air operator may state in its manual that the signature of an authorized licensed aircraft maintenance engineer constitutes that certification.

121.711. [Reserved]

121.713. [Reserved]

(17) Emergency evacuation systems or components including all exit doors, passenger emergency evacuation lighting systems, or evacuation equipment that are found defective, or that fail to perform the intended functions during an actual emergency or during training, testing, maintenance, demonstrations, or inadvertent deployments.

(b) For the purpose of this section "during flight" means the period from the moment the aircraft leaves the surface of the earth on takeoff until it touches down on landing.

(c) In addition to the reports required by paragraph (a) of this section and as prescribed by the Director General, each certificate holder shall report any other failure, malfunction, or defect in an aircraft that occurs or is detected at any time it, in its opinion, that failure, malfunction, or defect has endangered or may endanger the safe operation of an aircraft used by it.

(d) Each certificate holder shall send each report required by this section, in writing, to the DGAC office within the next 72 hours. However, a report that is due on Saturday or Sunday may be mailed or delivered on the following Monday, and one that is due on a holiday may be mailed or delivered on the next work day.

(e) The certificate holder shall transmit the reports required by this section in a manner and on a form as prescribed by the Director, and shall include in the first report as much of the following as is available:

(1) Type and identification number of the aircraft.
(2) The name of the operator.
(3) The date, flight number, and stage during which the incident occurred (e.g., preflight, takeoff, climb, cruise, descent, landing, and inspection).
(4) The emergency procedure effected (e.g., unscheduled landing and emergency descent).
(5) The nature of the failure, malfunction, or defect.
(6) Identification of the part and system involved, including available information pertaining to type designation of the major component and time since overhaul.
(7) Apparent cause of the failure, malfunction, or defect (e.g. wear, crack, design deficiency, or personnel error).
(8) Whether the part was repaired, replaced, sent to the manufacturer, or other action taken.
(9) Whether the aircraft was grounded.
(10) Other pertinent information necessary for more complete identification, determination of seriousness, or corrective action.

(f) A certificate holder that is also the holder of a Type Certificate (including a Supplement Type Certificate), a Parts Manufacturer Approval, or a Technical Standard Order Authorization, or that is the licensee of a type certificate holder, need not report a failure, malfunction, or defect under this section if the failure, malfunction, or defect has been reported by it under CASR 21.3.

(g) No person may withhold a report required by this section even though all information required in this section is not available.

(h) When certificate holder gets additional information, including information from the manufacturer or other agency, concerning a report required by this section, it shall expeditiously submit it as a supplement to the first report and reference the date and place of submission of the first report.

(i) The certificate holder shall transmit each report required by this section to the organization responsible for the type design of the aircraft.

121.705. Mechanical Interruption Summary Report

Each certificate holder shall regularly and promptly send a summary report on the following occurrences to the Director:

(a) Each interruption to a flight, unscheduled change of aircraft enroute, or unscheduled stop or diversion from a route, caused by known or suspected mechanical difficulties or malfunctions that are not required to be reported under CASR 121.703.

(b) The number of engines removed prematurely because of malfunction, failure or defect, listed by make and model and the aircraft type in which it was installed.

(c) The number of propeller featherings in flight, listed by type of propeller and engine and aircraft on which it was installed. Propeller featherings for training, demonstration, or flight check purposes need not be reported.

121.707 Alteration and repair reports

(a) Each certificate holder shall, promptly upon its completion, prepare a report of each major alteration or major repair of an airframe, aircraft engine, propeller, or appliance of an aircraft operated by it.

(b) The certificate holder shall submit a copy of each report of a major alteration to, and shall keep a copy of each report of a major repair available for inspection by, the representative of the Director.

121.709. Maintenance Release or Aircraft Log Entry

(a) No certificate holder may operate an aircraft after maintenance, preventive maintenance or alterations are performed on the aircraft unless the certificate holder, or the person with whom the certificate holder arranges for the performance of the maintenance, preventive maintenance, or alterations, prepares or causes to be prepared:

(1) A maintenance release; or

(2) An appropriate entry in the aircraft log.

(b) The maintenance release or log entry required by paragraph (a) of this section must:

(1) Be prepared in accordance with the procedures set forth in the certificate holder's manual.

(2) Include a certification that:

(i) The work was performed in accordance with the requirements of the certificate holder's manual;

(ii) All items required to be inspected were inspected by an authorized person who determined that the work was satisfactorily completed;

(iii) No known condition exists that would make the airplane unairworthy; and

(iv) So far as the work performed is concerned, the aircraft is in condition for safe operation; and

(3) Be signed by an authorized licensed aircraft maintenance engineer.

(4) The entries cannot be erased.

Notwithstanding paragraph (b)(3) of this section, after maintenance, preventive maintenance, or alterations performed by an Approved

APPENDIX A - CRITERIA FOR DEMONSTRATION OF EMERGENCY EVACUATION PROCEDURES UNDER CASR 121.291

(a) Aborted takeoff demonstration

(1) The demonstration must be conducted either during the dark of the night or during daylight with the dark of the night simulated. If the demonstration is conducted in doors during daylight hours, it must be conducted with each window covered and each door closed to minimize the daylight effect. Illumination on the floor or ground may be used, but it must be kept low and shielded against shining into the airplane's windows or doors

(2) The airplane must be a normal ground attitude with landing gear extended.

(3) Unless the airplane is equipped with an off-wing descent means, stands or ramps may be used for descent from the wing to the ground. Safety equipment such as mats or inverted life rafts may be placed on the floor or ground to protect participants. No other equipment that is not part of the emergency evacuation equipment of the airplane may be used to aid the participants in reaching the ground.

(4) The airplane's normal electrical power sources must be deenergized.

(5) All emergency equipment for the type of passenger-carrying operation involved must be installed in accordance with the certificate holder's manual.

(6) Each external door and exit, and each internal door or curtain must be in position to simulate a normal takeoff.

(7) A representative passenger load of persons in normal health must be used. At least 40 percent of the passenger load must be female and over 50 years of age. Three life-size dolls, not included as part of the total passenger load, must be carried by passengers to simulate live infants 2 years old or younger. Crewmembers, mechanics, and training personnel, who maintain or operate the airplane in the normal course of their duties, may not be used as passengers.

(8) No passenger may be assigned a specific seat except as the Administrator may require. Except as required by item (12) of this paragraph, no employee of the certificate holder may be seated next to an emergency exit.

(9) Seat belts and shoulder harnesses (as required) must be fastened.

(10) Before the start of the demonstration, approximately one-half of the total average amount of carry-on baggage, blankets, pillows, and other similar articles must be distributed at several locations in the aisles and emergency exit access ways to create minor obstructions.

(11) The seating density and arrangement of the airplane must be representative of the highest capacity passenger version of that airplane the certificate holder operates or proposes to operate.

(12) Each crewmember must be a member of a regularly scheduled line crew except that flight crewmembers need not be members of a regularly scheduled line crew, provided they have knowledge of the airplane. Each crewmember must be seated in the seat the crewmember is normally assigned for takeoff, and must remain in that seat until the signal for commencement of the demonstration is received.

(13) No crewmember or passenger may be given prior knowledge of the emergency exits available for the demonstration.

(14) The certificate holder may not practice, rehearse, or describe the demonstration for the participants nor may any participant have taken part in this type of demonstration within the preceding 6 months.

(15) The pretakeoff passenger briefing required by CASR 121.571 may be given in accordance with the certificate hoider's manual. The passengers may also be warned to follow directions of crewmembers. but may not be instructed on the procedures to be followed in the demonstration.

(16) If safety equipment as allowed by item (3) of this section is provided, either all passenger and cockpit windows must be blacked out or all of the emergency exits must have safety equipment in order to prevent disclosure of the available emergency exits.

(17) Not more than 50 percent of the emergency exits in the sides of the fuselage of an airplane that meet all of the requirements applicable to the required emergency exits for that airplane may be used for the demonstration. Exits that are not to be used in the demonstration must have the exit handle deactivated or must be indicated by red lights, red tape, or other acceptable means, placed outside the exits indicate fire or other reason that they are unusable. The exits to be used must be designated by the certificate holder, subject to approval by the Administrator. At least one floor level exit must be used.

(18) Except as provided in paragraph (a)(3) of this appendix, all evacuees must leave the airplane by a means provided as part of the airplane's equipment.

(19) The certificate holder's approved procedures and all of the emergency equipment that is normally available, including slides, ropes, lights, and megaphones, must be fully utilized during the demonstration, except that the flight crew must take no active role in assisting others inside the cabin during the demonstration.

(20) The evacuation time period is completed when the last occupant has evacuated the airplane and is on the ground. Evacuees using stands or ramps allowed by item (3) above are considered to be on the ground when they are on the stand or ramp: Provided. That the acceptance rate of the stand or ramp is no greater than the acceptance rate of the means available on the airplane for descent from the wing during an actual crash situation.

(b) Ditching demonstration

The demonstration must assume that daylight hours exist outside the airplane, and that all required crewmembers are available for the demonstration.

1) If the certificate holder's manual requires the use of passengers to assist in the launching of liferafts, the needed passengers must be aboard the airplane and participate in the demonstration according to the manual.

2) A stand must be placed at each emergency exit and wing, with the top of the platform at a height simulating the water level of the airplane following a ditching.

3) After the ditching signal has been received, each evacuee must don a life vest according to the certificate holder's manual.

4) Each liferaft must be launched and inflated, according to the certificate holder's manual, and all other required emergency equipment must be placed in rafts.

5) Each evacuee must enter a liferaft, and the crewmembers assigned to each life raft must indicate the location of emergency equipment aboard the raft and describe its use.

6) Either the airplane, a mockup of the airplane or a floating device simulating a passenger compartment must be used.

(i) If a mockup of the airplane is used, it must be a life-size mockup of the interior and representative of the airplane currently used by or proposed to be used by the certificate holder, and must contain adequate seats for use of the evacuees.

Operation of the emergency exits and the doors must closely simulate those on the airplane. Sufficient wing area must be installed outside the over-the-wing exits to demonstrate the evacuation.

(ii) If a floating device simulating a passenger compartment is used, it must be representative, to the extent possible, of the passenger compartment of the airplane used in operations. Operation of the emergency exits and the doors must closely simulate operation on that airplane. Sufficient wing area must be installed outside the over-the-wing exits to demonstrate the evacuation. The device must be equipped with the same survival equipment as is installed on the airplane, to accommodate all persons participating in the demonstration.

APPENDIX B - DESCRIPTION OF ELEMENTS FOR A FLIGHT SAFETY PROGRAM

(a) Program Elements

The following elements shall be included in an air carrier's Flight Safety Program and described in the appropriate Manuals:

- Air Carrier's Management Plan
- Qualifications of the Flight Safety Person
- Responsibilities of the Flight Safety Person
- Training for the Flight Safety Person
- Incident Management
- Flight Safety Committee
- Emergency Response Planning
- Communication and Safety Education

(b) Description of Program Elements

(1) Air Carrier's Management Plan

The plan shall identify the management position responsible for ensuring that:

(i) all the necessary elements of the program have been developed, properly integrated, and coordinated;

(ii) the Program has been disseminated to all appropriate personnel;

(iii) a detailed description of the program is incorporated in the appropriate air carrier's manuals; and

(iv) adequate Program management is maintained.

(2) Responsibilities of the Flight Safety Person

This person shall have direct access to the operations manager in flight safety matters and shall be responsible for managing the flight safety program by:

(i) monitoring and advising on all air carrier flight safety activities which may have an impact on flight safety;

(ii) establishing a reporting system which provides for a timely and free flow of flight safety related information;

(iii) conducting safety surveys;

(iv) soliciting and processing flight safety improvement suggestions;

(v) developing and maintaining safety awareness program;

(vi) monitoring industry flight safety concerns which may have an impact on air carrier operations;

(vii) maintaining close liaison with aeroplane manufacturers;

(viii) maintaining close liaison with DGAC;

(ix) maintaining close liaison with industry safety associations;

(x) developing and maintaining the air carrier accident response plan;

(xi) identifying flight safety deficiencies and making suggestions for corrective action:

(xii) investigating and reporting on incidents/accidents and making recommendations to preclude a recurrence;

(xiii) developing and maintaining a flight safety database to monitor and analyze trends;

(xiv) making recommendations to the air carrier senior management on matters pertaining to flight safety; and

(xv) monitoring the response and measuring the results of flight safety initiatives.

(3) Training of the Flight Safety Person

Except as approved by the DGAC, the flight safety person shall successfully complete a training course over a period of not more than one year, that shall include the following subjects:

(i) flight safety philosophy;

(ii) human factors and the decision making process;

(iii) accident prevention;

(iv) the role of the flight safety officer as advisor to senior management;

(v) risk management;

(vi) accident/incident management;

(vii) the aviation safety survey;

(viii) emergency response plan; and

(ix) incident investigation.

(4) Incident Management

The air carrier shall be responsible for providing employees with a timely means of reporting any unsafe conditions. The person responsible for the flight safety program shall institute and maintain an incident reporting system. This system will provide for:

(i) a process of reporting incidents;

(ii) investigation of incidents;

(iii) the means of advising management; and

(iv) information feedback to employees.

(5) Flight Safety Committee

An air carrier shall establish a Flight Safety Committee that is capable of representing all flight and ground divisions of the company and in the case of companies with multiple bases, the oversight must also include such bases.

(i) Responsibilities

The responsibilities of the Committee shall be to monitor all areas of the operation, identify safety concerns and deficiencies. and make recommendations for corrective measures to senior management where applicable.

(ii) Members

The Committee members shall be selected to ensure representation of all operating departments in the organization and in matters concerning the safety program, will report to the CASO or person designated by the CASO, irrespective of their functional department.

(iii) Meetings

The Committee shall meet on a regular basis (at least twice a year) as established by the committee chairperson. Special meetings on urgent matters may be called by any Committee member. Committee members may also attend other meetings for the purpose of delivering safety committee reports.

(iv) Minutes

Minutes of the Committee meetings shall provide a record of agenda items, decisions and corrective actions taken where applicable. A mandatory circulation schedule of the minutes of all regular and extra-ordinary meetings, based upon need to know, will be developed for the entire company and a community minutes document/s, will be maintained in a place or places, suitably available to any company employee.

(6) Emergency Response Planning

The air carrier shall develop and maintain an Air Carrier Emergency Response Plan that shall include the following elements:

(i) air carrier policy;

(ii) air carrier mobilization and agencies notification; (iii) passenger and crew welfare;

(iv) casualty and next-of-kin coordination;

(v) accident investigation on behalf of the air carrier;

(vi) air carrier team's response to the accident site;

(vii) preservation of evidence;

(viii) media relations;

(ix) claims and insurance procedures;

(x) aeroplane wreckage removal; and

(xi) emergency response training.

(7) Communication and Safety Education

(i) The air carrier shall be responsible for an efficient system of distributing appropriate safety material in a timely manner.

(ii) The air carrier shall by means of films, video, posters or other printed material, ensure there is a means of safety education on areas where the various departments of the air carrier may be at risk.

MINISTER OF COMMUNICATION

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AGUM GUMELAR, M.Sc

SALINAN sesuai dengan aslinya
Kepala Biro Hukum dan KSLN

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