STATE OF KUWAIT
Directorate General of Civil Aviation

دولة الكويت
الإدارة العامة للطيران المدني

Date : 2020/02/13 التـــاريـخ :

Ref : 20/85/DDGASD/4 الإشـارة :

REGULATORY CIRCULAR (NO. 2020-08)

Subject:

Notice of Amendment to Kuwait Civil Aviation Safety Regulations KCASR (issue 4).

Purpose:

The purpose of this Regulatory Circular No. **2020-08** is to Amend **KCASR 6 – OPERATION OF AIRCRAFT – PART DEF – GUIDANCE MATERIALS (GM)** (issue 4) .

This Regulatory Circular No. **2020-08** is based on (NPA) No. 2019-29 dated on 03/Dec/2019.

Revisions:

This amendment will be included in revision (3) of KCASR 6 – OPERATION OF AIRCRAFT – PART DEF – GUIDANCE MATERIALS (GM).

Regulatory Requirements:

This amendment shall apply to the following Organizations approved by the Directorate General of Civil Aviation (DGCA) or authorized to operate within the State of Kuwait:

1. Approved Maintenance Organizations (AMO) Holders;
2. Air Navigation Service Providers;
3. Air Operator Certificate (AOC) & Private Operator Certificate (POC) Holders;
4. Airport Operators;
5. Ground Handling Service Providers;
6. Flying Training Organizations;
7. All users of KCASRs.

Effective Date:

This new revision will be in effect from (12/Mar/2020).

Required Action:

All users of KCASR are required to comply with the provisions contained within this amendment from the effective date.

President of Civil Aviation

Eng. Emad F. Al-Jelwi
Deputy Director General For Aviation
Sefety, Air Transport, Civil Aviation
Security Department

S.D

www.dgca.gov.kw
E-mail: info@dgca.gov.kw

ص.ب : ١٧ الصفاة - الرمز البريدي ١٣٠٠١ دولة الكويت - البدالة ٢٤٣٣٦٦٩٩ (٩٦٥+) - الرد الآلي : ١٦١ (٩٦٥+) - الفاكس : ٢٤٧١٣٥٠٤ (٩٦٥+)
P.O. Box 17 Safat - P. Code 13001 - State of Kuwait - Operator : (+965) 24336699 - IVR : (+965) 161 - Fax : (+965) 24713504

STATE OF KUWAIT
Directorate General of Civil Aviation

دولة الكويت
الإدارة العامة للطيران المدني

Date : 2020/02/13 التـــاريـخ :

Ref : 20/87/DDGASD/4 الإشـارة :

Deputy Director General for Air Navigation Affairs,
Directorate General of Civil Aviation,
Kuwait.

Sub.: ***Regulatory Circular No. 2020-08.***
Revision Number 03 to Kuwait Civil Aviation Safety Regulations – KCASR 6 – OPERATION OF AIRCRAFT - PART DEF – GUIDANCE MATERIALS (GM)

Dear Sir,

Please find enclosed herewith the regulatory circular No. 2020-08 regarding the issuance of ***KCASR 6 – Operation of Aircraft – PART DEF – Guidance Materials (GM).*** This is for your information and distribution to all concerned departments.

Up to date KCASR Parts are published on the DGCA/ASD website (https://kcasr.dgca.gov.kw).

If required, the DGCA/Aviation Safety Department personnel are available to answer your questions on the interpretation and intended implementation of the proposed amendments.

KCASR 6 – Operation of Aircraft – PART DEF – Guidance Materials (GM) will be in effect from the date of issue of the Regulatory Circular.

Yours Sincerely,

Deputy Director General for Aviation Safety
& Air Transport.

Eng. Emad F. Al-Jelwi
Deputy Director General For Aviation
Safety, Air Transport, Civil Aviation
Security Department

Cc: President of Civil Aviation.
Director General of Civil Aviation.
Aviation Safety Director.
Air Transport Director.
Inspection & oversight Superintendent.
Head of Standards & Aviation Safety Regulations Division

S.D EM S.B JH

www.dgca.gov.kw
E-mail: info@dgca.gov.kw

ص.ب : ١٧ الصفاة - الرمز البريدي ١٣٠٠١ دولة الكويت - البدالة ٢٤٣٣٦٦٩٩ (٩٦٥+) - الرد الآلي : ١٦١ (٩٦٥+) - الفاكس : ٢٤٧١٣٥٠٤ (٩٦٥+)
P.O. Box 17 Safat - P. Code 13001 - State of Kuwait - Operator : (+965) 24336699 - IVR : (+965) 161 - Fax : (+965) 24713504

#	Page	Para # in Source	Reference Section/Article	Amendmant
1.	3	37		[TABLE] 3 Feb 2020 NPA 2019-29 (EFB)
2.	5	152	(g)	'Controlled portable electronic device (C-PED)' means a PED subject to administrative control by the operator that uses it. This includes, inter alia, tracking the allocation of the devices to specific aircraft or persons and ensuring that no unauthorized changes are made to the hardware, software, or databases. C-PEDs can be assigned to the category of non-intentional transmitters or T-PEDs.
3.	5	153	(h)	'EFB installed resources' means certified EFB hardware components external to the EFB host platform itself, such as input/output components (installed remote displays, keyboards, pointing devices, switches, etc.) or a docking station.
4.	5	154	(i)	'EFB mounting device' means an aircraft certified part that secures a portable or installed EFB, or EFB system components.
5.	6	155	(j)	'EFB system supplier' means the company responsible for developing, or for having developed, the EFB system or part of it.
6.	6	164	(s)	'Installed EFB' means an EFB host platform installed in an aircraft, capable of hosting type A and/or type B EFB applications. It may also host certified applications. It is an aircraft part, and, is therefore, covered by the aircraft airworthiness approval.
7.	7	172	(z)	'Miscellaneous (non-EFB) software applications' means non-EFB applications that support function(s) not directly related to the tasks performed by the flight crew in the aircraft.

Kuwait Civil Aviation Safety Regulations

KCASR 6 – OPERATION OF AIRCRAFT

PART DEF – GUIDANCE MATERIALS (GM)

Table of Contents

Table of Contents 2
Amendment Record 3
Control of this Document 4
GM 1 Definitions for terms used in acceptable means of compliance and guidance material 5
GM 2 Abbreviations and Acronyms 8
GM 3 HELIDECK 19
GM 4 Head-up Guidance Landing System (HUDLS) 19
GM 5 Helicopter Emergency Medical Services (HEMS) Flight 19
GM 6 Hostile Environment 19
GM 7 Night Vision Imaging System (NVIS) 19
GM 8 OFFSHORE LOCATION 20
GM 9 Offshore Operations 20
GM 10 COASTLINE 20
GM 11 Public Interest Site 20
GM 12 Technical Instructions 20
GM 13 V_1 20
GM 14 TASK SPECIALISTS 20
GM 15 UPSET PREVENTION AND RECOVERY TRAINING (UPRT) DEFINITIONS 20

Amendment Record

Amendment No	Date of Issue	Remarks
1	June 2018	Part Rename
2	December 2018	Up to EASA Revision 11 (July 2018)
3	Feb 2020	NPA 2019-29 (EFB)

Control of this Document

DC.1 Introduction

DC.1.1 Pursuant to Law No (30) of the year 1960 and subsequent Ministerial Decisions No (3) of the year 1986, No (18) of the year 1990, and No (3) of the year 1996, based upon that Law and as reflected in the Preamble to the Kuwait Civil Aviation Safety Regulations, Issue 3, Rev.0, August 2013, the President of the Kuwait Directorate General of Civil Aviation is empowered to adopt and amend Kuwait Civil Aviation Safety Regulations. In accordance herewith, the following GM is hereby established for compliance by all persons concerned. This GM shall be known as KCASR 6, Part - DEF Definitions GM and any reference to this title shall mean referring to these regulations governing the requirements to be met for the certification of air operations.

DC.2 Authority for this Regulation

DC.2.1 This KCASR 6, Part - DEF Definitions GM is issued on the authority of the President of the Kuwait Directorate General of Civil Aviation.

DC.3 Applicability

DC.3.1 This KCASR 6, Part - DEF Definitions GM is applicable to the aviation industry of the State of Kuwait.

DC.4 Scope

DC.4.1 KCASR 6 Operation of Aircraft AMC & GM contains the acceptable means of compliance and guidance material for the operation of aircraft regulations of the State of Kuwait, and shows compliance with ICAO Annex 6. The AMC & GM are separated into the following parts with cross references between parts where applicable.

- Part ARO Authority Requirements for Air Operations AMC and GM
- Part ORO Organisation Regulations for Air Operations AMC and GM
- **Part DEF Definitions GM**
- Part CAT Commercial Air Transport AMC and GM
- Part SPA Specific Approvals AMC and GM
- Part SPO Special Operations AMC and GM
- Part NCC Non Commercial with Complex Motor-Powered Aircraft AMC and GM
- Part NCO Non Commercial other than Complex Motor-Powered Aircraft AMC and GM

DC.5 Definitions

DC.5.1 Terms not defined shall have the meaning given to them in the relevant legal instruments or international legal instruments in which they appear, especially as they appear in the Convention and its Annexes.

GM 1 Definitions for terms used in acceptable means of compliance and guidance material

For the purpose of Acceptable Means of Compliance and Guidance Material the following definitions should apply:

(a) **'Abnormal flight behaviour'** means, in the context of an aircraft tracking system, an event affecting a flight:

1) which is outside of the parameters defined by the operator for normal operation or which indicates an obvious deviation from normal operation; and

2) for which the operator has determined that it poses a risk for the safe continuation of the flight or for third parties.

(a1) '**Accuracy' means'**, in the context of PBN operations, the degree of conformance between the estimated, measured or desired position and/or the velocity of a platform at a given time, and its true position or velocity. Navigation performance accuracy is usually presented as a statistical measure of system error and is specified as predictable, repeatable and relative.

(b) **'Aircraft-based augmentation system (ABAS)'** means a system that augments and/or integrates the information obtained from the other GNSS elements with information available on board the aircraft. The most common form of ABAS is receiver autonomous integrity monitoring (RAIM).

(c) **'Area navigation (RNAV)'** means a method of navigation which permits aircraft operation on any desired flight path within the coverage of station-referenced navigation aids or within the limits of the capability of self-contained aids, or a combination of these.

(d) **'Availability'** means, in the context of PBN operations, an indication of the ability of the system to provide usable service within the specified coverage area and is defined as the portion of time during which the system is to be used for navigation during which reliable navigation information is presented to the crew, autopilot or other system managing the flight of the aircraft.

(e) **'Committal point'** means the point in the approach at which the pilot flying decides that, in the event of an engine failure being recognised, the safest option is to continue to the elevated final approach and take-off area (elevated FATO).

(f) **'Continuity of function'** means, in the context of PBN operations, the capability of the total system, comprising all elements necessary to maintain aircraft position within the defined airspace, to perform its function without non-scheduled interruptions during the intended operation.

(g) 'Controlled portable electronic device (C-PED)' means a PED subject to administrative control by the operator that uses it. This includes, inter alia, tracking the allocation of the devices to specific aircraft or persons and ensuring that no unauthorized changes are made to the hardware, software, or databases. C-PEDs can be assigned to the category of non-intentional transmitters or T-PEDs.

(h) 'EFB installed resources' means certified EFB hardware components external to the EFB host platform itself, such as input/output components (installed remote displays, keyboards, pointing devices, switches, etc.) or a docking station.

(i) 'EFB mounting device' means an aircraft certified part that secures a portable or installed EFB, or EFB system components.

(j) 'EFB system supplier' means the company responsible for developing, or for having developed, the EFB system or part of it.

(k) **'Emergency locator transmitter'** is a generic term describing equipment that broadcasts distinctive signals on designated frequencies and, depending on application, may be activated by impact or may be manually activated.

(l) **'Exposure time'** means the actual period during which the performance of the helicopter with the critical engine inoperative in still air does not guarantee a safe forced landing or the safe continuation of the flight.

(m) **'Fail-operational flight control system'** means a flight control system with which, in the event of a failure below alert height, the approach, flare and landing can be completed automatically. In the event of a failure, the automatic landing system will operate as a fail-passive system.

(n) **'Fail-operational hybrid landing system'** means a system that consists of a primary fail-passive automatic landing system and a secondary independent guidance system enabling the pilot to complete a landing manually after failure of the primary system.

(o) **'Fail-passive flight control system'**: a flight control system is fail-passive if, in the event of a failure, there is no significant out-of-trim condition or deviation of flight path or attitude but the landing is not completed automatically. For a fail-passive automatic flight control system the pilot assumes control of the aeroplane after a failure.

(p) **'Flight control system'** in the context of low visibility operations means a system that includes an automatic landing system and/or a hybrid landing system.

(q) **'HEMS dispatch centre'** means a place where, if established, the coordination or control of the helicopter emergency medical service (HEMS) flight takes place. It may be located in a HEMS operating base.

(r) **'Hybrid head-up display landing system (hybrid HUDLS)'** means a system that consists of a primary fail-passive automatic landing system and a secondary independent HUD/HUDLS enabling the pilot to complete a landing manually after failure of the primary system.

(s) 'Installed EFB' means an EFB host platform installed in an aircraft, capable of hosting type A and/or type B EFB applications. It may also host certified applications. It is an aircraft part, and, is therefore, covered by the aircraft airworthiness approval.

(t) **'Integrity'** means, in the context of PBN operations, the ability of a system to provide timely warnings to users when the system should not be used for navigation.

(u) **'Landing distance available (LDAH)'** means the length of the final approach and take-off area plus any additional area declared available by the State of the aerodrome and suitable for helicopters to complete the landing manoeuvre from a defined height.

(v) **'Landing distance required (LDRH)'**, in the case of helicopters, means the horizontal distance required to land and come to a full stop from a point 15 m (50 ft) above the landing surface.

(w) **'Lateral navigation'** means a method of navigation which permits aircraft operation on a horizontal plane using radio navigation signals, other positioning sources, external flight path references, or a combination of these.

(r1) **'mass' and 'weight'**: In accordance with ICAO Annex 5 and the International System of Units (SI), both terms are used to indicate the actual and limiting masses of aircraft, the payload and its constituent elements, the fuel load, etc. These are expressed in units of mass (kg), but in most approved flight manuals and other operational

documentation, these quantities are published as weights in accordance with the common language. In the ICAO standardised system of units of measurement, a weight is a force rather than a mass. Since the use of the term 'weight' does not cause any problem in the day-to-day handling of aircraft, its continued use in operational applications and publications is acceptable.

(x) **'Maximum structural landing mass'** means the maximum permissible total aeroplane mass upon landing under normal circumstances.

(y) **'Maximum zero fuel mass'** means the maximum permissible mass of an aeroplane with no usable fuel. The mass of the fuel contained in particular tanks should be included in the zero fuel mass when it is explicitly mentioned in the aircraft flight manual.

(z) 'Miscellaneous (non-EFB) software applications' means non-EFB applications that support function(s) not directly related to the tasks performed by the flight crew in the aircraft.

(aa) **'Overpack'**, for the purpose of transporting dangerous goods, means an enclosure used by a single shipper to contain one or more packages and to form one handling unit for convenience of handling and stowage.

(bb) **'Package'**, for the purpose of transporting dangerous goods, means the complete product of the packing operation consisting of the packaging and its contents prepared for transport.

(cc) **'Packaging'**, for the purpose of transporting dangerous goods, means receptacles and any other components or materials necessary for the receptacle to perform its containment function.

(dd) **'Personal locator beacon (PLB)'** is an emergency beacon other than an ELT that broadcasts distinctive signals on designated frequencies, is standalone, portable and is manually activated by the survivors.

(ee) **'Receiver autonomous integrity monitoring (RAIM)'** means a technique whereby a GNSS receiver/processor determines the integrity of the GNSS navigation signals using only GNSS signals or GNSS signals augmented with altitude. This determination is achieved by a consistency check among redundant pseudo-range measurements. At least one satellite in addition to those required for navigation has to be in view for the receiver to perform the RAIM function.

(ff) **'Rotation point (RP)'** means the point at which a cyclic input is made to initiate a nose-down attitude change during the take-off flight path. It is the last point in the take-off path from which, in the event of an engine failure being recognised, a forced landing on the aerodrome can be achieved.

(gg) **'Space-based augmentation system (SBAS)'** means a wide coverage augmentation system that augments and/or integrates the information obtained from the other GNSS elements with information from a satellite-based transmitter. The most common form of SBAS in Europe is the European Geostationary Navigation Overlay Service (EGNOS).

(hh) **'Touch down and lift-off area (TLOF)'** means a load-bearing area on which a helicopter may touch down or lift off.

(ii) 'Vertical navigation' means a method of navigation which permits aircraft operation on a vertical flight profile using altimetry sources, external flight path references, or a combination of these.

GM 2 Abbreviations and Acronyms

The following abbreviations and acronyms are used in the Annexes to this Regulation:

A	aeroplane
a/c	aircraft
AAC	aeronautical administrative communications
AAIM	aircraft autonomous integrity monitoring
AAL	above aerodrome level
ABAS	aircraft-based augmentation system
AC	advisory circular
AC	alternating current
ACAS	airborne collision avoidance system
ADF	automatic direction finder
ADG	air driven generator
ADS	automatic dependent surveillance
ADS-B	automatic dependent surveillance - broadcast
ADS-C	automatic dependent surveillance - contract
AEA	Association of European Airlines
AEO	all-engines-operative
AFFF	aqueous film forming foams
AFM	aircraft flight manual
AFN	aircraft flight notification
AFN	ATS facilities notification
AGL	above ground level
AHRS	attitude heading reference system
AIS	aeronautical information service
ALARP	as low as reasonably practicable
ALSF	approach lighting system with sequenced flashing lights
AMC	Acceptable Means of Compliance
AML	aircraft maintenance licence
AMSL	above mean sea level
ANP	actual navigation performance
AOC	aeronautical operational control
AOC	air operator certificate
APCH	approach
APU	auxiliary power unit

APV	approach procedure with vertical guidance
AR	authorisation required
ARA	airborne radar approach
ARA	Authority Requirements for Aircrew
ARO	Authority Requirements for Air Operations
ARP	Aerospace Recommended Practices
ASC	Air Safety Committee
ASDA	accelerate-stop distance available
ASE	altimeter system error
ATA	Air Transport Association
ATC	air traffic control
ATIS	automatic terminal information service
ATN	air traffic navigation
ATPL	airline transport pilot licence
ATQP	alternative training and qualification programme
ATS	air traffic services
ATSC	air traffic service communication
AVGAS	aviation gasoline
AVTAG	aviation turbine gasoline (wide-cut fuel)
AWO	all weather operations
BALS	basic approach lighting system
Baro-VNAV	barometric VNAV
BCAR	British civil airworthiness requirements
BITD	basic instrument training device
CAP	controller access parameters
CAT	commercial air transport
CAT I/II/III	category I/II/III
CBT	computer-based training
CC	cabin crew
CDFA	continuous descent final approach
CDL	configuration deviation list
CFIT	controlled flight into terrain
CG	centre of gravity
CM	context management
CMV	converted meteorological visibility
CofA	certificate of airworthiness

COP	code of practice
CoR	certificate of registration
COSPAS-SARSAT	cosmicheskaya sistyema poiska avariynich sudov - search and rescue satellite-aided tracking
CP	committal point
CPA	closest point of approach
CPDLC	controller pilot data link communication
CPL	commercial pilot licence
C-PED	controlled portable electronic device
CRE	class rating examiner
CRI	class rating instructor
CRM	crew resource management
CS	Certification Specifications
CVR	cockpit voice recorder
DA	decision altitude
DA/H	decision altitude/height
DAP	downlinked aircraft parameters
D-ATIS	digital automatic terminal information service
DC	direct current
DCL	departure clearance
D-FIS	data link flight information service
DG	dangerous goods
DH	decision height
DI	daily inspection
DIFF	deck integrated firefighting system
DLR	data link recorder
DME	distance measuring equipment
D-METAR	data link - meteorological aerodrome report
D-OTIS	data link - operational terminal information service
DPATO	defined point after take-off
DPBL	defined point before landing
DR	decision range
DSTRK	desired track
EC	European Community
ECAC	European Civil Aviation Conference
EFB	electronic flight bag

EFIS	electronic flight instrument system
EGNOS	European geostationary navigation overlay service
EGT	exhaust gas temperature
ELT	emergency locator transmitter
ELT(AD)	emergency locator transmitter (automatically deployable)
ELT(AF)	emergency locator transmitter (automatic fixed)
ELT(AP)	emergency locator transmitter (automatic portable)
ELT(S)	survival emergency locator transmitter
EPE	estimated position of error
EPR	engine pressure ratio
EPU	estimated position of uncertainty
ERA	en-route alternate (aerodrome)
ERP	emergency response plan
ETOPS	extended range operations with two-engined aeroplanes
EU	European Union
EUROCAE	European Organisation for Civil Aviation Equipment
EVS	enhanced vision system
FAA	Federal Aviation Administration
FAF	final approach fix
FALS	full approach lighting system
FANS	future air navigation systems
FAP	final approach point
FAR	Federal Aviation Regulation
FATO	final approach and take-off
FC	flight crew
FCL	flight crew licensing
FCOM	flight crew operating manual
FDM	flight data monitoring
FDO	flying display operation
FDR	flight data recorder
FFS	full flight simulator
FGS	flight control/guidance system
FI	flight instructor
FLIPCY	flight plan consistency
FLTA	forward-looking terrain avoidance
FMECA	failure mode, effects and criticality analysis

FMS	flight management system
FNPT	flight and navigation procedures trainer
FOD	foreign object damage
FOSA	flight operational safety assessment
fpm	feet per minute
FRT	fixed radius transition
FSTD	flight simulation training device
ft	feet
FTD	flight training device
FTE	full time equivalent
FTL	flight and duty time limitations
g	gram
GAGAN	GPS aided geo augmented navigation
GBAS	ground-based augmentation system
GCAS	ground collision avoidance system
GEN	general
GIDS	ground ice detection system
GLS	GBAS landing system
GM	Guidance Material
GMP	general medical practitioner
GNSS	global navigation satellite system
GPS	global positioning system
GPWS	ground proximity warning system
H	helicopter
HEMS	helicopter emergency medical service
HF	high frequency
Hg	mercury
HHO	helicopter hoist operation
HIALS	high intensity approach lighting system
HIGE	hover in ground effect
HLL	helideck limitations list
HOGE	hover out of ground effect
HoT	hold-over time
hPa	hectopascals
HPL	human performance and limitations
HUD	head-up display

HUDLS	head-up guidance landing system
HUMS	health usage monitor system
IAF	initial approach fix
IALS	intermediate approach lighting system
ICAO	International Civil Aviation Organization
IDE	instruments, data and equipment
IF	intermediate fix
IFR	instrument flight rules
IFSD	in-flight shutdown
IGE	in ground effect
ILS	instrument landing system
IMC	instrument meteorological conditions
in	inches
INS	inertial navigation system
IP	intermediate point
IR	Implementing Rule
IR	instrument rating
IRS	inertial reference system
ISA	international standard atmosphere
ISO	International Organization for Standardization
IV	intravenous
JAA	Joint Aviation Authorities
JAR	Joint Aviation Requirements
kg	kilograms
km	kilometres
kt	knots
LDA	landing distance available
LDP	landing decision point
LED	light-emitting diode
LHS	left hand seat
LIFUS	line flying under supervision
LNAV	lateral navigation
LoA	letter of acceptance
LOC	localiser
LOE	line-oriented evaluation
LOFT	line-oriented flight training

LOQE	line-oriented quality evaluation
LOS	limited obstacle surface
LP	Localiser performance
LPV	localiser performance with vertical guidance
LRCS	long range communication system
LRNS	long range navigation system
LVO	low visibility operation
LVP	low visibility procedures
LVTO	low visibility take-off
m	metres
MALS	medium intensity approach lighting system
MALSF	medium intensity approach lighting system with sequenced flashing lights
MALSR	medium intensity approach lighting system with runway alignment indicator lights
MAPt	missed approach point
MCTOM	maximum certified take-off mass
MDA	minimum descent altitude
MDH	minimum descent height
MEA	minimum en-route altitude
MED	medical
MEL	minimum equipment list
METAR	meteorological aerodrome report
MGA	minimum grid altitude
MHA	minimum holding altitude
MHz	megahertz
MID	midpoint
MLR	manuals, logs and records
MLS	microwave landing system
MLX	millilux
mm	millimetres
MM	multi-mode
MMEL	master minimum equipment list
MNPS	minimum navigation performance specifications
MOC	minimum obstacle clearance
MOCA	minimum obstacle clearance altitude
MOPSC	maximum operational passenger seating configuration
MORA	minimum off-route altitude

MPSC	maximum passenger seating capacity
MSA	minimum sector altitude
MSAS	multi-functional satellite augmentation system
MTCA	minimum terrain clearance altitude
N	North
NADP	noise abatement departure procedure
NALS	no approach lighting system
NCC	non-commercial operations with complex motor-powered aircraft
NCO	non-commercial operations with other-than-complex motor-powered aircraft
N_F	free power turbine speed
N_G	engine gas generator speed
NM	nautical miles
NOTAM	notice to airmen
NOTECHS	non-technical skills evaluation
NOTOC	notification to captain
NPA	non-precision approach
NPA	Notice of Proposed Amendment
NSE	navigation system error
NVD	night vision device
NVG	night vision goggles
NVIS	night vision imaging system
OAT	outside air temperature
OCH	obstacle clearance height
OCL	oceanic clearance
ODALS	omnidirectional approach lighting system
OEI	one-engine-inoperative
OFS	obstacle-free surface
OGE	out of ground effect
OIP	offset initiation point
OM	operations manual
OML	operational multi-pilot limitation
ONC	operational navigation chart
OPS	operations
ORO	Organisation Requirements for Air Operations
OTS CAT II	other than standard category II
PAPI	precision approach path indicator

PAR	precision approach radar
PBE	protective breathing equipment
PBN	performance-based navigation
PC/PT	proficiency check/proficiency training
PCDS	personnel carrying device system
PDA	premature descent alert
PDP	predetermined point
PED	portable electronic device
PIC	pilot-in-command
PIN	personal identification number
PIS	public interest site
PLB	personal locator beacon
PNR	point of no return
POH	pilot's operating handbook
PRM	person with reduced mobility
QAR	quick access recorder
QFE	atmospheric pressure at aerodrome elevation / runway threshold
QNH	atmospheric pressure at nautical height
RA	resolution advisory
RAIM	receiver autonomous integrity monitoring
RAT	ram air turbine
RCC	rescue coordination centre
RCF	reduced contingency fuel
RCLL	runway centre line lights
RF	fixed radius
RF	radio frequency
RFC	route facility chart
RI	ramp inspection
RI	rectification interval
RIE	rectification interval extension
RMA	regional monitoring agency
RNAV	area navigation
RNP	required navigation performance
RNP APCH RNP	approach
RNP AR APCH RNP	approach for which authorisation is required
ROD	rate of descent

RP	rotation point
RTCA	Radio Technical Commission for Aeronautics
RTODAH	rejected take-off distance available (helicopters)
RTODRH	rejected take-off distance required (helicopters)
RTOM	reduced take-off mass
RTZL	runway touchdown zone lights
RVR	runway visual range
RVSM	reduced vertical separation minima
S	South
SAFA	safety assessment of foreign aircraft
SALS	simple approach lighting system
SALSF	simple approach lighting system with sequenced flashing lights
Sap	stabilised approach
SAP	system access parameters
SAR	search and rescue
SAS	stability augmentation system
SBAS	satellite-based augmentation system
SCC	senior cabin crew
SCP	special category of passenger
SDCM	system of differential correction and monitoring
SFE	synthetic flight examiner
SFI	synthetic flight instructor
SID	standard instrument departure
SMM	safety management manual
SMS	safety management system
SNAS	satellite navigation augmentation system
SOP	standard operating procedure
SPA	operations requiring specific approvals
SPECI	aviation selected special weather report
SPO	specialised operations
SRA	surveillance radar approach
SSALF	simplified short approach lighting system with sequenced flashing lights
SSALR	simplified short approach lighting system indicator lights with runway alignment
SSALS	simplified short approach lighting system
SSEC	static source error correction
SSR	secondary surveillance radar

STAR	standard terminal arrival route
STC	supplemental type certificate
TA	traffic advisory
TAC	terminal approach chart
TAS	true airspeed
TAWS	terrain awareness warning system
TC	technical crew
TC	type certificate
TCAS	traffic collision avoidance system
TCCA	Transport Canada Civil Aviation
TCH	type certificate holder
TDP	take-off decision point
TDZ	touchdown zone
THR	threshold
TI	Technical Instructions
TIT	turbine inlet temperature
TLS	target level of safety
TMG	touring motor glider
TODA	take-off distance available (aeroplanes)
TODAH	take-off distance available (helicopters)
TODRH	take-off distance required (helicopters)
TOGA	take-off/go around
TORA	take-off run available
T-PED	transmitting portable electronic device
TRE	type rating examiner
TRI	type rating instructor
TSE	total system error
TVE	total vertical error
TWIP	terminal weather information for pilots
UMS	usage monitoring system
UTC	coordinated universal time
V_2	take-off safety speed
V_{s0}	stalling speed
V_{AT}	indicated airspeed at threshold
VDF	VHF direction finder
VFR	visual flight rules

VHF	very high frequency
VIS	visibility
VMC	visual meteorological conditions
V_{MO}	maximum operating speed
VNAV	vertical navigation
VOR	VHF omnidirectional radio range
V_T	threshold speed
VTOL	vertical take-off and landing
V_{TOSS}	take-off safety speed
WAAS	wide area augmentation system
WAC	world aeronautical chart
WIFI	wireless fidelity
ZFTT	zero flight-time training

GM 3 HELIDECK

The term 'helideck' includes take-off and landing operations on ships and vessels and covers 'shipboard final approach and take off areas (FATOs).

GM 4 Head-up Guidance Landing System (HUDLS)

A HUDLS is typically used for primary approach guidance to decision heights of 50 ft.

GM 5 Helicopter Emergency Medical Services (HEMS) Flight

(a) A HEMS flight (or more commonly referred to as HEMS mission) normally starts and ends at the HEMS operating base following tasking by the 'HEMS dispatch centre'. Tasking can also occur when airborne, or on the ground at locations other than the HEMS operating base.

(b) The following elements should be regarded as integral parts of the HEMS mission:

1) flights to and from the HEMS operating site when initiated by the HEMS dispatch centre;

2) flights to and from an aerodrome/operating site for the delivery or pick-up of medical supplies and/or persons required for completion of the HEMS mission; and

3) flights to and from an aerodrome/operating site for refuelling required for completion of the HEMS mission.

GM 6 Hostile Environment

The open sea areas considered to constitute a hostile environment should be designated by the appropriate authority in the appropriate Aeronautical Information Publication or other suitable documentation.

GM 7 Night Vision Imaging System (NVIS)

Helicopter components of the NVIS include the radio altimeter, visual warning system and audio warning system.

GM 8 OFFSHORE LOCATION

'Offshore location' includes, but is not limited to:

(a) helidecks;

(b) shipboard heliports; and

(c) winching areas on vessels or renewable-energy installations.

GM 9 Offshore Operations

Offshore operations include, but are not limited to, support of offshore oil, gas and mineral exploitation and sea-pilot transfer.

GM 10 COASTLINE

The national definition of coastline should be included by the appropriate authority in the aeronautical information publication (AIP) or other suitable documentation.

GM 11 Public Interest Site

An example of a public interest sites is a landing site based at a hospital located in a hostile environment in a congested area, which due to its size or obstacle environment does not allow the application of performance class 1 requirements that would otherwise be required for operations in a congested hostile environment.

GM 12 Technical Instructions

The ICAO document number for the Technical Instructions is Doc 9284-AN/905.

GM 13 V_1

The first action includes for example: apply brakes, reduce thrust, deploy speed brakes.

GM 14 TASK SPECIALISTS

For the purpose of this Regulation, persons that are carried in a specialised operation, e.g. on a parachute flight, sensational flight or scientific research flight, are considered to be task specialists.

GM 15 UPSET PREVENTION AND RECOVERY TRAINING (UPRT) DEFINITIONS

'Aeroplane upset prevention and recovery training' means a combination of theoretical knowledge and flying training with the aim of providing flight crew with the required competencies to prevent or recover from developing or developed aeroplane upsets.

'Aeroplane upset' means an aeroplane in flight unintentionally exceeding the parameters normally experienced in line operations or training, normally defined by the existence of at least one of the following parameters:

(a) pitch attitude greater than 25 degrees nose up;

(b) pitch attitude greater than 10 degrees nose down;

(c) bank angle greater than 45 degrees; or

(d) within the above parameters, but flying at airspeeds inappropriate for the conditions.

'Angle of attack (AOA)' means the angle between the oncoming air, or relative wind, and a defined reference line on the aeroplane or wing.

'Approach-to-stall' means flight conditions bordered by the stall warning and stall.

'Competency' means a combination of skills, knowledge, and attitudes required to perform a task to the prescribed standard.

'Developed upset' means a condition meeting the definition of an aeroplane upset.

'Developing upset' means any time the aeroplane begins to unintentionally diverge from the intended flight path or airspeed.

'Energy state' means how much of each kind of energy (kinetic, potential or chemical) the aeroplane has available at any given time.

'Error' means an action or inaction by the flight crew that leads to deviations from organisational or flight crew intentions or expectations.

'Error management' means the process of detecting and responding to errors with countermeasures that reduce or eliminate the consequences of errors, and mitigate the probability of further errors or undesired aircraft states.

'First indication of a stall' means the initial aural, tactile or visual sign of an impending stall, which can be either naturally or synthetically induced.

'Flight crew resilience' means the ability of a flight crew member to recognise, absorb and adapt to disruptions.

'Fidelity level' means the level of realism assigned to each of the defined FSTD features.

'Flight path' means the trajectory or path of the aeroplane travelling through the air over a given space of time.

'Flight path management' means active manipulation, using either the aeroplanes automation or manual handling, to command the aeroplane flight controls to direct the aeroplane along a desired trajectory.

'Load factor' factor means the ratio of a specified load to the weight of the aeroplane, the former being expressed in terms of aerodynamic forces, propulsive forces, or ground reactions.

'Loss of control in flight (LOCI)' means a categorisation of an accident or incident resulting from a deviation from the intended flight path.

'Manoeuvre-based training' means training that focuses on a single event or manoeuvre in isolation.

'Negative training' means training which unintentionally introduces incorrect information or invalid concepts, which could actually decrease rather than increase safety.

'Negative transfer of training' means the application (and 'transfer') of what was learned in a training environment (i.e., a classroom, an FSTD) to normal practice, i.e. it describes the degree to which what was learned in training is applied to actual normal practices. In this context, negative transfer of training refers to the inappropriate generalisation of knowledge and skill to a situation or setting in normal practice that does not equal the training situation or setting.

'Post-stall regime' means flight conditions at an angle of attack greater than the critical angle of attack.

'Scenario-based training' means training that incorporates manoeuvres into real-world experiences to cultivate practical flying skills in an operational environment.

'Stall' means a loss of lift caused by exceeding the aeroplane's critical angle of attack.

Note: A stalled condition can exist at any attitude and airspeed, and may be recognised by continuous stall warning activation accompanied by at least one of the following:

(a) buffeting, which could be heavy at times;

(b) lack of pitch authority and/or roll control; and

(c) inability to arrest the descent rate.

'Stall Event' means an occurrence whereby the aeroplane experiences conditions associated with an approach-to-stall or a stall.

'Stall (event) recovery procedure' means the manufacturer-approved aeroplane-specific stall recovery procedure. If an OEM-approved recovery procedure does not exist, the aeroplane-specific stall recovery procedure developed by the operator, based on the stall recovery template contained in GM5 ORO.FC.220&230, may be used.

'Stall warning' means a natural or synthetic indication provided when approaching a stall that may include one or more of the following indications:

(a) aerodynamic buffeting (some aeroplanes will buffet more than others);

(b) reduced roll stability and aileron effectiveness;

(c) visual or aural cues and warnings;

(d) reduced elevator (pitch) authority;

(e) inability to maintain altitude or arrest rate of descent; and

(f) stick shaker activation (if installed).

Note: A stall warning indicates an immediate need to reduce the angle of attack.

'Startle' means the initial short-term, involuntary physiological and cognitive reactions to an unexpected event that commence the normal human stress response.

'Stick pusher' means a device that, automatically applies a nose down movement and pitch force to an aeroplane's control columns, to attempt to decrease the aeroplane's angle of attack. Device activation may occur before or after aerodynamic stall, depending on the aeroplane type.

Note: *A stick pusher is not installed on all aeroplane types.*

'Stick shaker' means a device that automatically vibrates the control column to warn the pilot of an approaching stall.

Note: *A stick shaker is not installed on all aeroplane types.*

'Stress (response)' means the response to a threatening event that includes physiological, psychological and cognitive effects. These effects may range from positive to negative and can either enhance or degrade performance.

'Surprise' means the emotionally-based recognition of a difference in what was expected and what is actual.

'Threat' means events or errors that occur beyond the influence of the flight crew, increase operational complexity and must be managed to maintain the margin of safety.

'Threat management' means the process of detecting and responding to threats with countermeasures that reduce or eliminate the consequences of threats and mitigate the probability of errors or undesired aircraft states.

'Train-to-proficiency' means approved training designed to achieve end-state performance objectives, providing sufficient assurances that the trained individual is capable to consistently carry out specific tasks safely and effectively.

Note: *In the context of this definition, 'train-to-proficiency' can be replaced by 'training-toproficiency'.*

'Undesired aircraft state' means flight crew-induced aircraft position or speed deviation, misapplication of controls, or incorrect systems configuration, associated with a reduction in margins of safety.

Note*: Undesired states can be managed effectively, restoring margins of safety, or flight crew response(s) can induce an additional error, incident, or accident.*

Note*: All countermeasures are necessary flight crew actions. However, some countermeasures to threats, errors and undesired aircraft states that flight crew employ, build upon 'hard'/systemic- ased resources provided by the aviation system.*

'Unsafe situation' means a situation, which has led to an unacceptable reduction in safety margin.

END