European Union Aviation Safety Agency

Notice of Proposed Amendment 2024-07 (B)

in accordance with Article 6 of MB Decision 01-2022

Proposed amendments to CS-MMEL

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Proposed amendments

The text of the amendment is arranged to show deleted, new or amended text as follows:

— deleted text is ~~struck through~~;

— new or amended text is highlighted in blue;

— an ellipsis, '[…]', indicates that the rest of the text is unchanged.

SUBPART A — GENERAL

[…]

SUBPART B — MASTER MINIMUM EQUIPMENT LIST

[…]

CS MMEL.110 MMEL purpose

[…]

GM2 MMEL.110 MMEL purpose

NON-SAFETY-RELATED ITEMS

[…]

(b) Non-safety-related items include those items related to the convenience, comfort~~,~~ or entertainment of the passengers, and equipment that is used only on ground for maintenance purposes. Convenience, comfort~~,~~ or entertainment of the passengers may include items such as galley equipment, movie equipment, stereo equipment~~,~~ and overhead reading lamps. Additional guidance is provided in GM1 ORO~~.OPS~~.MLR.105(a).

(c) Non-safety-related items need not be included in the MMEL, unless so desired by the applicant.

[…]

SUBPART C — LEVEL OF SAFETY AND JUSTIFICATIONS OF MMEL ITEMS

[…]

CS MMEL.145 Justification of MMEL items

[…]

GM1 MMEL.145 Justification of MMEL items

JUSTIFICATIONS CONTENT

(a) The justifications include information necessary to show compliance with applicable CS-MMEL paragraphs.

(b) When applicable, the justifications include the information necessary to show compliance with the relevant Certification Specifications (e.g. CS-25, AMC 25.703, AMC 25.735, CS-25 Appendix K, CS-26, etc.).

(c) ~~(b)~~The justifications for an MMEL item include the list of functions associated with ~~to~~ the item, as well as the associated functional failure(s), failure effect(s) and as far as practical the failure cause(s).

(d) ~~(c)~~Where a message-oriented MMEL approach is in use, all failures combinations/conditions for which this message would be displayed should be considered when preparing the justifications.

(e) ~~(d)~~When non-safety-related items are proposed, the associated justifications may be limited to only demonstrating the non-safety related nature of the item in order to show compliance with CS MMEL.145.

APPENDIX 1 TO GM1 MMEL.145: MMEL ITEMS GUIDANCE BOOK

ATA 22 AUTOFLIGHT

Summary of the guidance items:

Item	ATA
Autopilot	22-10-1
Flight Director	22-10-2
Navigation Databases (MC)	22-71-1

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 22 Autoflight						
(1) System & Sequence Numbers		(2) Rectification Interval				
ITEM			(3) Number installed			
				(4) Number required for dispatch		
					(5) Remarks or Exceptions	
22-10-1	**Autopilot (or Autopilot Channel)**					
22-10-1A	(Other than CAT)	C	-	0	(M) (O) May be inoperative provided:	

ATA Chapter: 22 Autoflight				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
22-10-1B ~~(continued)~~ (CAT) (continued)	C	-	1	(M) (O) Any in excess of one may be inoperative provided: (a) Affected autopilot/channel is deactivated, and (b) Affected autopilot/channel is not part of the equipment required for intended operation. **Procedures** See 22-10-1A
(continued) 22-10-1C (CAT)	B	-	0	(M) (O) May be inoperative provided: (a) Affected autopilot/channel is deactivated, and (b) Affected autopilot/channel is not part of the equipment required for intended operation. **Procedures** (M) To give guidance on a practical mean to ensure that the affected autopilot/channel will not engage during the flight, and (O) To specify any applicable restriction for operations requiring a specific approval (e.g. PBN/MNPS, RVSM, Low Visibility, ETOPS, helicopter IFR, single pilot, etc.)

ATA Chapter: 22 Autoflight				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
22-10-1-1 Autopilot Functions/Modes **22-10-1-1 (CAT)** (continued)	C	-	-	(a) Any increase in crew workload caused by the affected autopilot/channel has been considered for intended operation, (b) Operations are conducted under VFR for single pilot operations, (c) Affected autopilot/channel is deactivated, and (d) Affected autopilot/channel is not part of the equipment required for intended operation. **Procedures** See 22-10-1A (M) (O) One or more functions/modes may be inoperative provided: (a) Any increase in crew workload caused by the inoperative functions/modes has been considered for intended operation, (b) Inoperative functions/modes are deactivated as applicable, (c) Autopilot heading mode and altitude hold are operative, and (d) Affected functions/modes are not part of the equipment required for intended operation.
				Procedures (M) To give guidance reference to ensure the affected function of the autopilot are properly deactivated and do not interact with functions used for the flight. (O) See 22-10-1A

Additional considerations:

If the autopilot or autopilot functions are required to meet airworthiness requirements (e.g. stabilisation function for rotorcraft, single pilot IFR, etc.), this needs to be taken into account as part of the MMEL evaluation and compliance with CS-MMEL requirements has to be demonstrated.

Some autopilot installations are not dependent on flight director being operative, and basic attitude modes may still be available.

For highly integrated systems the autopilot may not function without the flight director, and therefore autopilot inoperative relief would also apply (see guidance item 22-10-2).

If flight director modes of the autopilot are used to show compliance with requirements applicable to the means of measuring and indicating turn and slip, aircraft attitude or stabilised aircraft heading, in combination with instruments, additional restrictions related to the loss of associated indications may be applicable.

For the intended operations, any increase in crew workload caused by the inoperative functions has to be considered. This condition needs to be specified in the MMEL (e.g. number of flights, leg duration, etc.)

Any additional limitations (e.g. flight time) may result from the above review.

Applicable operating minima (e.g. CAT2/CAT3 operations) or navigation specifications (e.g. B-RNAV, RNP) requirements may be specified at the level of the MMEL or refer to appropriate section of AFM or Operations Manual. The above guidance shows these restrictions covered at operational procedures level but having them reflected at dispatch conditions level is also acceptable.

If the aircraft is certified for ETOPS operations, associated restrictions may be included, as appropriate.

The above guidance indicates the need to deactivate the affected autopilot/channel for dispatch. Some autopilot design may not offer the possibility to fully comply with this requirement. Alternate conditions can in these cases be proposed provided adequate safeguards against erratic autopilot behaviour are demonstrated.

22-10-1C:

For single pilot CAT operations, depending on the use of autopilot in routine procedures, the operations may be restricted to day VMC only.

22-10-1-1 sub-item covers failure of functions of the autopilot, which do not lead to the disconnection of the associated autopilot (autopilot channel).

[…]

ATA 23 COMMUNICATIONS

Summary of the guidance items:

Item	ATA
Headset (MC)	23-10-1
Audio Selector Panel	23-10-2
Flight Crew Compartment Speaker	23-10-3
HF Communications	23-11-1
VHF Communications	23-12-1
Audio Selector Panel Frequency Controls and Indications	23-13-1
Public Address System	23-30-1
Datalink	23-30-2

Flight Crew Interphone System (Flight Crew Compartment Intercommunication) (MC)	23-40-1
Crew Member Interphone System (MC)	23-40-2
Flight Crew Compartment Door Surveillance System (MC)	23-70-1
Cockpit Voice Recorder (MC)	23-71-1

[…]

Aircraft applicability: <u>Aeroplanes & Helicopters</u>

ATA Chapter: 23 Communications				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
23-10-3 Flight Crew Compartment Speaker 23-10-3A	C	-	0	(O) May be inoperative provided: (a) A headset is operative for each required crew member on flight crew compartment duty, and (b) A spare operative headset is readily available in the flight crew compartment for use by any of the required crew member on flight crew compartment duty. **Procedures** (O) To provide alternate procedures for the use of headsets, as appropriate.

Additional considerations:

It should be ensured that the affected speaker is not used for crew intercommunication when smoke masks are used unless single pilot operations are conducted.

If there are emergency (e.g. smoke) procedures which require the crew to establish communication then relief for both cannot be granted, but depending on flight test results, relief for one may be possible.

All aural alerts, messages and other communication which are normally routed through the flight crew compartment speakers should remain audible through the headsets and be recordable by the CVR (or the CVR should be considered inoperative). In the case aural alerts and required communications could be heard only through the headsets, these should be worn permanently by at least one crew member on flight crew compartment duty.

Considerations should be given to audio system configuration in degraded electrical configuration, in particular when credit has been taken on the availability of flight crew compartment speakers.

Aircraft applicability: <u>Aeroplanes & Helicopters</u>

ATA Chapter: 23 Communications				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
23-11-1 HF Communications				
23-11-1A	D	-	-	Any in excess of those required for the intended flight route, may be inoperative.
23-11-1B	C	-	1	(O) Any in excess of one may be inoperative provided: (a) SATCOM air-ground communications with Air Traffic Service Providers (ATSPs) are available for the intended flight route, (b) SATCOM Voice or Data transfer functions are operative, (c) Prior to each flight, coordination with the appropriate Air Navigation Service Provider(s) is established where INMARSAT codes, or equivalent, are not available whilst using SATCOM voice function, and (d) Alternate communication procedures are established and used. Note: The intended flight route corresponds to any point on the route including diversions to reach alternate aerodromes required to be selected by the operational rules. **Procedures** (O) To provide alternate communication procedures. SATCOM is to be used only as a backup to normal HF communications unless otherwise authorised by the appropriate Air Navigation Service Provider(s)
(continued)				

ATA Chapter: 23 Communications				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued) 23-11-1C	A	-	1	(O) Any in excess of one may be inoperative for a maximum of 3 calendar days provided alternate communication procedures are established and used. **Procedures** (O) To provide alternate communication procedures. When the route enters airspace for which an In-Flight Blind Broadcast Procedure exists, select the appropriate I.F.B.B. VHF frequency and apply the procedure.
23-11-1D	A	-	0	(O) May be inoperative for two flights provided: (a) SATVOICE operates normally, (b) SATVOICE services are available as an LRCS over the intended flight route, (c) SATVOICE uses two independent **service** providers allowed by the relevant airspace procedures, (d) enroute procedures do not require its use, (e) alternate procedures are established and used. Note: A Controller-Pilot Data Link Communication (CPDLC) may satisfy the requirement of the second-long range communication system in combination with a SATVOICE system if accepted by the ATC of the relevant airspace. **Procedures** (O) To provide alternate communication procedures.

Additional considerations:

When relief if foreseen for an HF communication system powered under an emergency bus, additional considerations should account for the capability to maintain an acceptable level of safety with residual means of communication and navigation, depending on the kind of operations (e.g. ETOPS) and impose additional restrictions, as necessary.

23-11-1A:

This entry allows dispatch with HF communication in excess of the applicable requirements.

A radio communication system is required for operations in a controlled airspace, under IFR or at night.

In addition, for Commercial Air Transport operations under IFR or under VFR over routes that cannot be navigated by reference to visual landmarks, two independent means of communication are required and each system should have an independent antenna installation, except where rigidly supported non-wire antenna or other antenna installations of equivalent reliability are used.

23-11-1B & C:

These entries are applicable for flights on routes that require two long range communication systems.

Although SATCOM voice and data link may be used as long-range communication systems in order to meet applicable operational requirements, not all ATC facilities are adequately equipped to handle SATCOM data or voice as the primary means of communication.

SATCOM data or voice may however be accepted as a backup to normal HF communication systems.

HF-voice is the only LRCS currently available for Air Traffic Control communications in many areas.

Therefore, in areas requiring two operational LRCSs, at least one must be HF-voice and in areas requiring one LRCS, that system must be HF-voice.

Additional restriction to ensure availability of ACAS may be considered.

23-11-1D:

This entry is applicable to flights on routes that allow two long-range communication systems different from HF for a limited number of flights. SATVOICE and/or CPDLC (appropriate to the route of flight) may satisfy the requirement of the second-long range communication system if accepted by the ATC of the relevant airspace.

HF-voice is the only LRCS currently available for Air Traffic Control communications in many areas; therefore, the applicability of this entry must be checked with the Air Traffic Control communication requirements for each intended flight route.

[…]

ATA 25 EQUIPMENT/FURNISHINGS

Summary of the guidance items:

ITEM	ATA
Flight Crew Seats (MC)	25-11-1
Observer Seats (MC)	25-11-2
Passenger Seats (MC)	25-21-1
Cabin Crew Seat Assembly (single or dual position)	25-21-2
Storage Bins Cabin, Galley, and Lavatory Storage Compartments Closets	25-22-1
Exterior Lavatory Door Ashtrays (MC)	25-40-1
Interior Lavatory Ashtrays	25-40-2

(MC)	
Cargo Restraint Systems	25-50-1
Escape Slides	25-60-1
Independent portable lights (MC)	25-60-2
Protective Breathing Equipment (PBE) (MC)	25-60-3
Megaphones (MC)	25-60-4
Life rafts (MC)	25-60-5
Survival Equipment (MC)	25-60-6
Emergency Flotation Equipment	25-60-7
Crash Axes and Crowbars (MC)	25-61-1
First-Aid Kits (MC)	25-62-1
Emergency Medical Kits (MC)	25-62-2
First-Aid Kits – Additional Equipment (MC)	25-62-3
Emergency Locator Transmitter (MC)	25-63
Life jackets (MC)	25-64-1
Low-Frequency Underwater Locating Device (ULD)(MC)	25-65-1
Equipment for locating an aircraft in distress	25-66-1

[…]

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 25 Equipment/Furnishings					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-22-1	**Storage Bins/Cabin, Galley, and Lavatory Storage Compartments/ Closets**				

25-22-1A (continued)	C	-	-	(M) May be inoperative provided: (a) procedures are established to secure affected bins, compartments or closets in closed position, (b) affected bins, compartments or closets are prominently placarded 'DO NOT USE', (c) any emergency equipment located in affected bins, compartments or closets is considered inoperative, and (d) affected bins, compartments or closets are not used for storage of any items except for those permanently affixed. NOTE 1: For overhead bins, if no partitions are installed, the entire overhead bin is considered inoperative. NOTE 2: The proviso is not intended to preclude crew member inspections. **Procedures:** (M) To give guidance on how to secure the affected item in closed position.

ATA Chapter: 25 Equipment/Furnishings				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)				

25-22-1B	C	-	-	(M)(O) May be inoperative provided: (a) for nonretractable doors, the affected door is removed, (b) for retractable doors, the affected door is removed or secured in retracted (fully open) position, (c) affected bins, compartments or closets are prominently placarded 'DO NOT USE', (d) affected bins, compartment or closets are not used for storage of any items except those permanently affixed, (e) procedures are established and used to alert crew members and passengers of inoperative bins, compartments or closets, and (f) passengers are briefed that affected bins, compartments or closets are not used. NOTE 1: For overhead bins, if no partitions are installed, the entire overhead bin is considered inoperative. NOTE 2: Any emergency equipment located in affected bins, compartments or closets, and permanently affixed, is available for use. **Procedures:** (M) to give guidance on how to remove or secure the affected door in open position. (O) to provide procedures to brief crew members and passengers.
25-22-1CB	C	-	-	May be inoperative in closed position provided: (a) affected bins, compartment or closets are prominently placarded 'DO NOT USE', (b) any emergency equipment located in affected bins, compartments or closets is considered inoperative, and (c) location placarding for any emergency equipment stored in affected bins, compartments or closets is removed or obscured. NOTE: Use of this proviso may be dependent upon an operator's aircraft security programme, as appropriate

Additional considerations:

N/A.

[…]

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 25 Equipment/Furnishings

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-50-1	**Cargo Restraint Systems (MC)**				
25-50-1A		D	-	0	Individual restraint equipment, or all restraint equipment, may be inoperative or missing provided approved cargo-loading limits are observed.
25-50-1B		D	-	0	May be inoperative or missing provided cargo compartment remains empty.

Additional considerations:

Cargo loading limits should come from an approved source document that should be identified in the MMEL.

[…]

Aircraft applicability: Aeroplanes

ATA Chapter: 25 Equipment/Furnishings					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-62-2	**Emergency Medical Kits (MC)**				
25-62-2A		D	-	-	Any in excess of those required may be incomplete or missing.
25-62-2B		A	-	-	The required emergency medical kits may be incomplete for flights to a destination where repairs or replacements can be made but not to exceed a maximum of ~~two~~ 2 calendar days.

Additional considerations:

N/A

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 25 Equipment/Furnishings

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
25-62-3	**First-Aid Kits Additional Equipment (MC)**				
25-62-3A		D	-	-	Any in excess of those required may be inoperative, incomplete or missing.
25-62-3B		A	-	-	One set of required additional equipment may be inoperative, incomplete or missing for flights to a destination where repairs or replacements can be made but not to exceed a maximum of 2 calendar days.

Additional considerations:

The list of additional equipment is defined in the Air Operations Regulation.

[…]

ATA 31 INDICATING/RECORDING SYSTEMS

Summary of the guidance items:

Item	ATA
Clock (MC)	31-21-1
Flight Data Recorder (FDR) (MC)	31-31-1
Flight Data and Cockpit Voice Combination recorder (MC)	31-31-2
Quick Access Recorder (or any equivalent Flight Data Monitoring equipment) (MC)	31-31-3
Flight Data Recorder (FDR) Required Parameters (MC)	31-31-4

[…]

Aircraft applicability: Helicopters

ATA Chapter: 31 Indicating/Recording Systems				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
31-31-5 Usage Monitoring System (UMS) (MC)				
31-31-5A	B	-	0	(O) May be inoperative provided alternate procedures are established and used.
31-31-5B	C	-	0	(O) May be inoperative provided: (a) operations are not conducted over hostile environment, and (b) alternate procedures are established and used. **Procedures** (O) To provide guidance for alternate procedures associated with data monitoring programmes, as applicable.

Additional considerations:

This item is not applicable if the UMS function is incorporated in the FADEC.

ATA 32 Landing Gear

Summary of the guidance items:

Item	ATA
Tyre pressure monitoring system	32-40-1

Aircraft applicability: Aeroplanes

ATA Chapter: 32 Landing Gear						
(1) System & Sequence Numbers		(2) Rectification Interval				
ITEM			(3) Number installed			
				(4) Number required for dispatch		
					(5) Remarks or Exceptions	
32-40-1	**Tyre Pressure Monitoring System (MC)**	C	-	0	(M) May be inoperative provided alternate procedures are established and used. **Procedures** (M) To provide guidance for alternate procedures to monitor the tyre pressure.	
33-40-1A						

[…]

ATA 34 NAVIGATION — Flight instruments

Summary of the guidance items:

Item	ATA
Primary Airspeed Indication	34-10-1
Primary Altitude Indication	34-10-2
Turn and Slip Indicator /Turn Co-ordinators (if installed)	34-10-3
Vertical Speed Indicator	34-10-4
OAT Indicator	34-10-5
Radio Altimeter with an Audio Voice Warning (or equivalent)	34-15-2
Stabilised direction Indication	34-20-1
Magnetic/Standby Compass	34-22-1
Primary Attitude Indication	34-20-2
Standby Attitude Indication	34-20-3

[…]

Aircraft applicability: Helicopters

ATA Chapter: 34 Navigation					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34-15-2	**Radio Altimeter with an Audio Voice Warning (or equivalent)**				
34-15-2A		A	-	0	(O) May be inoperative provided: (a) No more than 6 hours shall be flown over water since the radio altimeter was found to be inoperative, (b) A maximum of 24 hours have elapsed since the radio altimeter was found to be inoperative, (c) The helicopter shall not fly over water at an altitude of less than 500 feet except for take-off and landing, ~~and~~ (d) The helicopter shall not descend below 500 feet on approach to landing over water unless the landing site is clearly visible to the pilot, and~~.~~ (e) Approach procedures and operating procedures do not depend on its use. **Procedures** (O) To provide operational procedures to the flight crew to ensure that applicable dispatch conditions are satisfied.

Additional considerations:

In addition to the equipment required by CAT.IDE.H.145, helicopter involved in NVIS operations shall be equipped with a radio altimeter and a low height warning system giving visual and audio warnings selectable by the pilot and discernible during NVIS operation.

A radio altimeter is also required for offshore standard approach procedures (OSAP) and for HELI SA CAT I. In case of OSAP with an unserviceable radio altimeter, the MDA should be a minimum of the MDH + 200 ft and should be based on a calibrated barometer at destination or on the lowest forecast barometric pressure adjusted to sea level (QNH) for the region.

[…]

Aircraft applicability: Aeroplanes & Helicopters

ATA Chapter: 34 Navigation

(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34-40-1	**Airborne Collision Avoidance System (ACAS) (MC)**				
34-40-1A		~~A~~B	-	0	(O)(M) May be inoperative ~~for a maximum of 10 calendar days~~ provided: (a) the ACAS is deactivated, and (b) Operating procedures do not require its use. **Procedures:** (O) To provide alternate crew procedures, as applicable. (M) To provide guidance for deactivation of the ACAS.
34-40-1B		C	-	-	(M) Any in excess of those required may be inoperative provided it is deactivated. **Procedures:** (M) To provide guidance for deactivation of the ACAS.
34-40-1-1	Combined TA and RA Dual Display				
34-40-1-1A		C	-	1	(O) May be inoperative on the pilot monitoring's side provided: (a) TA and RA elements and audio functions are operative on the pilot flying's side, and (b) TA and RA display indications are visible to the pilot monitoring. **Procedures:** (O) To provide alternate crew procedures, as applicable.
(continued)					

ATA Chapter: 34 Navigation				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)				
34-40-1-2 Resolution Advisory (RA) Display Systems				
34-40-1-2A	C	-	1	(O) One may be inoperative on the pilot monitoring side. **Procedures:** (O) To provide alternate flight crew procedures, as applicable.
34-40-1-2B	C	-	0	(O) One or more may be inoperative provided: (a) All Traffic Alert (TA) display elements and voice command audio functions are operative, and (b) TA only mode is selected by the crew, and (c) Operating procedures do not require its use. Procedures: (O) To provide alternate crew procedures, as applicable.
34-40-1-3 Traffic Alert (TA) Display System(s)				
34-40-1-3A	C	-	0	(O) One or more may be inoperative provided: (a) RA display and audio functions are operative, and (b) Operating procedures do not require its use. **Procedures:** (O) To provide alternate flight crew procedures, as applicable.

[…]

Aircraft applicability: Aeroplanes

ATA Chapter: 34 Navigation				
(1) System & Sequence Numbers ITEM	(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34-44-1 Runway Overrun Awareness and Alerting System (ROAAS)				

34-44-1A	C	-	0	(M) May be inoperative provided it is deactivated. **Procedures:** (M) To provide instructions on how to deactivate the system

Additional considerations:

In case the ROAAS provides an automated means of deceleration control, its unavailability should be highlighted to the flight crew and eventual performance penalties applied.

The deactivation of the ROAAS can alternatively be performed through an operational procedure, if acceptable.

[…]

Aircraft applicability: Aeroplanes & Helicopters:

ATA Chapter: 34 Navigation					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
34-51-1	**Navigation Systems (based on VOR, DME, ~~ADF,~~ GNSS, INS)**				
34-51-1A	(Except for commercial air transport operations)	D	-	0	May be inoperative provided: (a) Operations are conducted under VFR, and (b) Applicable airspace requirements are complied with.
34-51-1B		C	-	-	(O) One or more may be inoperative provided: (a) The navigation systems required for each segment of the intended flight route are operative, and (b) Alternate procedures are established and used, where applicable. **Procedures:** (O) To give alternate procedures in case existing operational procedures are affected.
34-51-2	Navigation System (ADF)	D	-	-	Any in excess of those required for the intended flight route may be inoperative.

[…]

ATA Chapter: 34 Navigation					
(1) System & Sequence Numbers ITEM		(2) Rectification Interval	(3) Number installed	(4) Number required for dispatch	(5) Remarks or Exceptions
(continued)					
34-54-2-1	Enhanced Surveillance Functions				
34-54-2-1A		D	-	0	One or more Downlinked Aircraft Parameters (DAPs), which provide Enhanced Surveillance, may be inoperative when not required for the intended flight route.
34-54-2-1B	Operations in the single European sky	~~C~~A	-	0	One or more Downlinked Aircraft Parameters (DAPs), which provide Enhanced Surveillance, may be inoperative for 3 calendar days .~~when required for the intended flight route.~~ Note 1: Enhanced surveillance capability is required in Mode S EHS notified airspace. ~~Note 2: For operations in the Single European Sky, enhanced surveillance capability cannot remain inoperative more than 3 consecutive days.~~
34-54-2-2	Extended Squitter (ADS-B OUT) Transmissions				
34-54-2-2A		D	-	0	One or more extended squitter transmissions may be inoperative when not required for the intended flight route.
34-54-2-2B	Operations in the single European sky	~~C~~A	-	0	One or more extended squitter transmissions may be inoperative ~~when required for the intended flight route.~~ ~~Note: For operations in the Single European Sky, enhanced surveillance capability cannot remain inoperative more than~~ for 3 calendar ~~consecutive~~ days.

[...]

ATA 35 OXYGEN

Summary of the guidance items:

Item	ATA
Supplemental Oxygen System (Non- Pressurized Aircraft)	35-00-1
Flight Crew Fixed Oxygen System (Supplemental)	35-10-1
Passenger/Cabin Crew Oxygen System (Supplemental) (if installed)	35-20-1

First-Aid Oxygen	35-50-1

Aircraft applicability: Aeroplanes

[…]

Additional considerations:

First-Aid Oxygen Supply Time:

The minimum oxygen supply time should be equal to the time needed for the aircraft to land on an aerodrome. The minimum oxygen supply time depends of the amount of oxygen needed to supply 2 % of the passengers with oxygen after a decompression.

Number of portable oxygen dispensing units:

The number of mandatory portable oxygen dispensing units, defined for each aircraft type, is calculated as follows:

— One portable oxygen dispensing unit is required for each required cabin crew, and

— Portable oxygen dispensing units are required for 2 % of the passengers.

The minimum number of required portable oxygen dispensing units is determined by the highest number due to the above requirements.

When the first-aid portable oxygen dispensing units are separated from the required cabin crew portable oxygen dispensing units, the minimum number of first-aid portable oxygen dispensing units may not be related to the number of required cabin crew.

The actual number of portable oxygen dispensing units is determined by the operator itself and depends on the flight duration, in particular the time needed to reach the nearest aerodrome for landing.

Relief can be considered for partially filled bottles provided that the oxygen quantity is in accordance with the applicable regulations. In this case, a procedure should be developed to ensure that the total quantity of oxygen in the operative bottles is adequate.

When determining the location for storage of the inoperative units, compliance with the dangerous goods requirements must be considered.

[….]

GM2 MMEL.145 Justification of MMEL items

[…]

GM3 MMEL.145 Justification of MMEL items

ELECTRONIC ENGINE CONTROL SYSTEM (EECS) FAILURES — ENGINE TIME LIMITED DISPATCH (TLD)

1. Dispatch with engine faults covered by a TLD report

(a) If a dispatch is sought with faults (or a combination of faults) that are present in an electronic engine control system (EECS), a time-limited dispatch (TLD) approval is required, as per Ref. [1] CS-E 1030, for faults such as EECS degraded protection or a loss of redundancy against a loss of thrust control (LOTC)/loss of power control (LOPC).

(b) A TLD approval is granted once the engine manufacturer has demonstrated compliance with the applicable engine certification requirements, including the verification that the LOTC/LOPC rates and hazardous engine effect rates remain acceptable with the proposed rectification time limits.

(c) Engine system faults that do not have an impact on the LOTC rate~~,~~ or on the compliance with the applicable engine certification requirements, may nevertheless be included in a non-approved~~as~~ part of the TLD report. These faults are normally indicated as not being derived from the LOTC analysis in the TLD report. In line with FAA Policy No. ANE-1993-33.28TLD-R1, a complete loss of a critical resource or a critical function should be a ~~'~~'No Dispatch' configuration in the TLD report. A resource or a function should be considered critical if it is necessary to comply with CS-E 1030(b) and/or (c).

(d) When taking credit for the TLD analysis to demonstrate compliance with CS-MMEL, the aircraft manufacturer should ensure that the MMEL content remains consistent with the TLD restrictions, time limitations, and other related installation requirements set by the engine manufacturer.

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