REPUBLICA DE CABO VERDE

AGÊNCIA DE AVIAÇÃO CIVIL

Instruction Nº 22/DSV/2015

SUBJECT: MINIMUM EQUIPMENT LIST (MEL) AND CONFIGURATION DEVIATION LIST (CDL)

DATE: 24/09/2015

1. OBJECTIVE

1.1.1 This instruction provides guidance and directions on the evaluation and approval of an operator's minimum equipment list (MEL) which allows revenue flight with certain inoperative components.

2. BACKGROUND

2.1.1 MEL procedures were developed to allow the continued operation of an aircraft with specific items of equipment inoperative under certain circumstances. For particular situations, an acceptable level of safety can be maintained with specific items of equipment inoperative for a limited period of time, until repairs can be made. The MEL document describes the limitations that apply when an operator wishes to conduct operations when certain items of equipment are inoperative.

2.1.2 CV-CAR permit the authorisation of an MEL if the AAC finds that compliance with all the aircraft equipment requirements is not necessary in the interest of safety for a particular operation. Through the use of appropriate conditions or limitations, the MEL provides for improved scheduled reliability and aircraft utilisation with an equivalent level of safety. This process is possible because of the installation of additional and redundant instruments, equipment and/or systems in present transport aircraft. Without an approved MEL, inoperative equipment would ground the aeroplane until repair or replacement of the non-functioning equipment. An MEL is approved for a specific make and model of aircraft and is part of the approved operator's Operations Manual.

3. DEFINITIONS AND ABREVIATIONS

3.1.1 The following definitions are used throughout this instruction:

(1) **Aeroplane Flight Manual (AFM) / Rotorcraft Flight Manual (RFM)**. The approved flight manual is the document approved by the AAC during the type certification acceptance process. The approved flight manual for the specific aircraft, as listed on the applicable type certificate data sheet, is the source document for operational limitations and performance parameters for an aircraft. The term, approved flight manual, can apply to either an AFM or an RFM. The AAC requires an approved flight manual for accepting an aircraft type certification.

(2) **The Aircraft Maintenance Manual (AMM)**. The AMM is the source document for aircraft maintenance procedures. The term AMM can apply to either an aeroplane or a rotorcraft manual. The AAC requires an AMM for aircraft type acceptance certification.

(3) **Air Transport Association of America (ATA) Specification 100**. ATA Specification 100, Manufacturer's Technical Data, is an international industry numbering standard developed to identify systems and components on different aircraft in the same format and manner.

(4) **Configuration Deviation List (CDL)**. Aircraft certified under the provisions of the and intended for use in air transport operations may be approved for operations with missing secondary airframe and engine parts. The aircraft source document for such operations is the CDL. The AAC grants approval of the CDL under the type certificate acceptance process. In some cases the CDL is incorporated into the limitations section of the approved flight manual as an appendix.

(5) **Inoperative**. Inoperative means that a system or component has malfunctioned to the extent that it does not accomplish its intended purpose and/or is not consistently functioning normally within its approved operating limits or tolerances.

(6) **Master Minimum Equipment List (MMEL)**. The MMEL is a list of equipment that issuing Authority has determined may be inoperative under certain operational conditions and still provides an acceptable level of safety. The MMEL contains the conditions, limitations and procedures required for operating the aircraft with these items inoperative. The MMEL is used as a starting point in the development and review of an individual operator's MEL.

(7) **Minimum Equipment List (MEL).** The MEL is derived from the MMEL and is applicable to an individual operator. The operator's MEL takes into consideration the operator's particular aircraft configuration, operational procedures and conditions. When approved and authorised for use, the MEL permits operation of the aircraft under specified conditions with certain inoperative equipment.

4. GENERAL DESCRIPTION

4.1.1 Items listed on the MEL

4.1.1.1 There are three categories of items that may be contained in the operator's MEL:

(1) MMEL items;

(2) Passenger convenience items;

(3) Administrative control items.

4.1.1.2 MMEL Items. The MEL will list all of the items for which the operator seeks relief and that are appropriate for its operation. The operator, by not listing at its discretion certain items in its MEL, may be more restrictive than permitted by the MMEL.

4.1.1.3 Passenger Convenience Items. The passenger convenience items, as contained in the operator's approved MEL, are those related to passenger convenience, comfort, or entertainment, such as, but not limited to, galley equipment, movie equipment, in-flight phones, ashtrays, stereo equipment, and overhead reading lamps. It is incumbent on the operator to develop procedures to ensure that those inoperative passenger convenience items are not used. Passenger convenience items do not have fixed repair intervals. Items addressed elsewhere in the MMEL shall not be authorised relief as a passenger convenience item. "M" and "O" procedures may be required and should be developed by the operator, approved by the OI (operations inspertors), and included in the air operator's appropriate document.

4.1.1.4 Administrative Control Items. An operator may use an MEL as a comprehensive document to control items for administrative purposes. In such cases, the operator's MEL may include items not listed in the MMEL. However, relief may not be granted for these items unless conditions and limitations are contained in approved documents other than the MMEL or meet the regulatory requirements of the CV-CARs. Examples of items considered to be administrative control items would be cockpit procedure cards.

4.1.2 Timely repair of items that are inoperative

4.1.2.1 **Operator's responsibility**. The MEL is intended to permit the operation of an aircraft with certain inoperative items for a limited period of time until repairs can be accomplished. The operator is responsible for establishing a controlled and effective repair program.

4.1.2.2 **Repair Interval.** Operators must make repairs within the time period specified by the MEL. Although the MEL might permit multiple days of operation with certain inoperative equipment, operators must repair the affected item as soon as possible.

4.1.2.3 **Day of Discovery.** The day of discovery is the calendar day an equipment malfunction was recorded in the aeroplane technical log or record. This day is excluded from the calendar days or flight days specified in the MMEL for the repair of an inoperative item of equipment. This provision is applicable to all MMEL items, such as categories "A," "B," "C," and "D." The operator must establish a reference time in which the calendar day or flight day begins and ends 24 hours later. This reference time is established to ensure compliance with timely repair of equipment and items.

4.1.2.4 **MMEL Definitions**. More than one set of MMEL definitions exist due to years of evolving changes during which not all MMELs have been updated to the latest revision of the definitions. However, only the most up-to-date set of definitions may be used with a specific MMEL. Only certain portions of the latest definitions may be appropriate for a specific air operator's MEL.

4.1.2.5 **Continuing Authorisations**. The AAC may occasionally authorise an operator to use a continuing authorisation to approve extensions to the maximum repair interval for category "B" and "C" items, when the AAC is satisfied that the operator has an effective quality system and MEL management program in place, provided the AAC is notified within 24 hours of the operator's exercise of extension authority. In such case the certificate holder is not authorised to extend the maximum repair time for category "A" and "D" items, as specified in the approved MEL. Misuse of the continuing authorisation may result in suspension or cancellation of the MEL continuing authorisation.

4.1.3 Recordkeeping

When an item of equipment becomes inoperative, the operator must report it by making an entry in the aircraft technical log, as prescribed by CV-CAR 91.03.5.

4.1.4 Multiple items that are inoperative. Individual MEL requirements are designed to provide coverage for single failures enroute. When operating with multiple inoperative items, the operator should consider the interrelationships between those items and the effect on aircraft operation and crew workload, including consideration of a single additional failure occurring enroute.

4.1.5 Fleet approval. An operator who has a single MEL for multiple aircraft may reflect equipment in its MEL that is not installed on all aircraft in its fleet. In this case, the item's title in the operator's MEL needs to be referenced by specific aeroplane identification (usually registration number).

4.1.6 Access to MEL. CV-CAR 8 requires that the MEL is carried aboard the aircraft or that the flightcrew have direct access to the MEL information prior to flight. Other means of direct access require AAC approval.

4.1.7 Conflict with other approved document. The MEL may not deviate from requirements of the flight manual limitations section, emergency procedures or other applicable airworthiness requirements, including airworthiness directives. **The operator's MEL may be more restrictive than the MMEL, but under no circumstances may the operator's MEL be less restrictive.**

4.1.8 Acceptable sources of MMELs. Source MMELs policy. The AAC generally accepts MMELs approved by the regulatory authority of the State of Design unless special circumstances dictate the acceptance of a Type Certificate issued by another State where the applicable MMEL is the one approved by the State issuing the AAC accepted Type certificate *(see Note)*. Operators are to incorporate source MMEL amendments as soon as they are available. The amendment to an operator MEL is to be submitted to the AAC for approval prior to usage.

Note: All references to the State of Design in this guidance presume that the AAC has accepted a Type certificate from the State of Design.

5. MEL APPROVAL PROCESS

5.1.1 General

5.1.1.1 This section contains specific direction, guidance, and procedures to be used by an operator in the development of an MEL by explaining the approval process. The operator's MEL is developed by the operator from the appropriate approved Master Minimum Equipment List (MMEL) for the aircraft concerned.

5.1.1.2 AAC will not grant interim approval while the MEL is undergoing the review process, nor will approval be given to use a MMEL as an MEL.

5.1.1.3 The AAC approval process for an MEL follows the general process for approval or acceptance. This section contains an expansion of the approval process for the MEL.

5.1.2 MEL acceptability. The general criteria for MEL acceptability are as follows:

(1) Equally or More Restrictive. The operator's MEL must not be less restrictive than the MMEL, the CV-CARs, the Operations Specifications (OpSpecs), the approved flight manual limitations, certification maintenance procedures or airworthiness directives (AD) requirements.

(2) Appropriate. The MEL must be appropriate to the individual aircraft make and model.

(3) Specific. The operator's operations ("O") and maintenance ("M") procedures must be specific to the aircraft and the operations conducted.

(4) Applicability. An MEL shall be applicable to the CV-CAR under which the operator is certificated.

5.1.3 Initial phase of MEL approval

5.1.3.1 In this phase of the MEL approval process, the operator shall consult with the operations inspector (OI) regarding requirements for either developing an MEL or for revising an existing MEL.

5.1.3.2 Operator Familiarization. In phase one of the MEL approval process, the OI should determine the scope of the task, based on the operator's experience with MELs. OIs should adapt the discussion to fit the operator's needs and experience, and should provide advice and guidance to the operator as necessary. OIs must ensure that the operator clearly understands that MEL document preparation is solely the operator's responsibility.

5.1.3.3 Required Document Submittal. OIs should advise the operator that, for an MEL to be approved, the following documents must be submitted:

(1) The proposed MEL or MEL changes, in duplicate;

(2) Necessary "O" and "M" procedures, which may be based on the aircraft manufacturer's recommended procedures, Supplemental Type Certificate (STC) modifier's procedures, or equivalent operator procedures;

(3) A description of the MEL management program and its procedures as required by the contents of the Operations Manual and the Maintenance Control Manual, unless these are already in place;

(4) Any required guidance material developed by the operator, such as training material, guidance, and deferral procedures for both maintenance and operations personnel.

NOTE: Several manufacturers have produced manuals of recommended procedures for operating with inoperative equipment. The Boeing Dispatch Deviation Guide (DDG) is an example of these manuals. When manufacturer's recommended procedures exist, operators may use them or may develop alternate procedures. When contract services are used to develop the operator's MEL along with acceptable "O" and "M" procedures, the principal inspectors should review the "O" and "M" procedures in light of the type of operations being conducted and should ensure the acceptability of the procedures. The principal inspectors should ensure that the developed MEL procedures can be adequately implemented by the operator.

5.1.4 Required Operator Guidance Materials. Operators must obtain a current copy of the MMEL for a specific aircraft in either hard copy or electronic format from the State that issued the type certificate accepted by the AAC for the specific aircraft.

5.1.5 Document Form. The operator may submit MEL draft documents to the AAC either on hard copy (printed on paper) or on computer disk, as mutually agreed upon between the operator and the OI. The operator and the OI should discuss the techniques that will be used for revising and editing the proposed document. It is important that the operator understand that when the process is complete, the final proposed MEL must be submitted on paper unless otherwise approved by the AAC.

5.1.6 MEL Format. The MMEL format has been standardised to facilitate the development, revision, and approval of both master and operator documents. While the master document contains eight total sections, six of these sections are considered basic for MEL development and shall be included in each operator's MEL. Refer to section 5.4.4.6 for a detailed list of the required MMEL sections and whether or not it should be included in the operator's MEL.

5.1.7 Generic Single Engine MMELs. A generic MMEL for single engine aircraft may be developed and published by the CAA from the country of manufacturer or other approved aircraft

evaluation group. In particular, the FAA and EASA (http://easa.europa.eu/certification-specifications/cs-gen-mmel-generic-master-minimum-equipment-list) have published a generic MMEL applicable to all single engine aeroplanes and helicopters for which a specific MMEL has not been issued. In such case, operators should contact the AAC for guidance on the development of an MEL based on the generic MMEL accepted by the AAC. When an operator is approved to use this generic MMEL, and a specific MMEL for the individual aircraft type is subsequently issued, the operator's MEL must be revised within the specified time frame to conform to the specific MMEL.

5.1.8 Final phase of MEL approval process.

5.1.8.1 The final phase begins when the operator formally submits the proposed MEL or MEL changes to the OI. The OI should initially review the operator's submittal to verify that it is complete, contains the required elements, as listed in paragraph 5.4.4.6 of this subsection, and is detailed enough to permit a thorough evaluation of the MEL.

5.1.8.2 Unacceptable Submittal. If the OI finds the proposed MEL package to be incomplete or unacceptable at this time or at any other juncture in the approval process, the OI should contact the operator. A sample letter is provided in Attachment B. If a mutually acceptable correction cannot be immediately agreed upon, the entire package must be immediately returned to the operator, or its representative, along with an explanation of the problems found within the documents.

5.1.8.3 Acceptable Submittal. If the OI finds the proposed MEL package to be complete and to contain the required information in an acceptable format, the detailed analysis begins. During this analysis, the OI should co-ordinate with the AI (airworthiness inspector) to perform a detailed examination of the proposed MEL document and other supporting documents and procedures. If the operator does not currently have an MEL program but is seeking authorization for such a program, its MEL management program must also be reviewed for acceptability. Inspectors should examine the technical content and quality of the proposed MEL document and other supporting documents and procedures as follows:

(1) Timely Review. OIs should promptly address all deficiencies and notify the operator of any discrepancies or outstanding issues. The OI and the operator may informally co-ordinate by telephone or other means to clarify minor discrepancies or misunderstandings.

(2) Reference Material. Inspectors should use the MMEL and this guidance as the primary reference document when reviewing and approving the MEL. In addition, inspectors should use the following references:

(a) Related CV-CARs;

(b) Approved Flight Manual;

(c) Operator's OpSpecs;

(d) Operator's manuals;

(e) MMEL policy letters (as required).

5.1.8.4 Change in Schedule. If certain MMEL items must be addressed within a specific time frame, the OI should notify the operator of this requirement as soon as possible. If the operator is unable to meet these schedule requirements, the OI should negotiate a new schedule with the operator.

5.1.8.5 MEL Evaluation. Inspectors should compare the operator's MEL changes against the corresponding items in the current MMEL for the specific aircraft type. In addition, inspectors should verify that the operator's MEL contains the following required items:

(1) Cover Page (Optional if covered otherwise). The MEL cover page contains the operator's name and the make and model of the aircraft to which the MEL applies.

(2) Table of Contents (Required). The table of contents contains a list of all of the pages in the MEL by title and the corresponding page identification (usually a page number).

(3) Log of Revisions (Required). The log contains the revision identification (usually a number) and date of the revision. It may also contain a list of the revised pages, a block for the initials of the person posting the change, and additional enhancements for use by the operator.

(4) Preamble (Required). The standard MMEL preamble section must be reproduced word for word in each MEL, without modification, except for reference to the applicable regulations.

(5) Definitions (Required). The standard MMEL definitions section must be reproduced word for word in each MEL, without modification.

(6) Control Page (Required). The control page is used as a method for keeping track of the status of the MEL and includes a record of the revision status or the date of each page of the operator's MEL. It may also be used as a means of conveying AAC approval of the MEL. The control page is also referred to as the "List of Effective Pages."

5.1.8.6 Minimum Contents. At a minimum, the control page must contain the following:

(1) The operator's name;

(2) A listing of all of the pages in the MEL (including the date of each page and its page number or revision number);

(3) The MMEL revision number on which the MEL is based (normally latest number revision)

(4) A signature block containing space for signature of the OI (only if this page is used as a means of conveying AAC approval of the MEL);

(5) Optional Contents. The operator may include additional information on the control page to provide flexibility and additional approval functions;

(6) Highlights of Change Page (Optional). This page contains a synopsis of the changes made by the operator in each revision.

5.1.8.7 Additional Items. The operator may include additional information sections in excess of the six required sections:

(1) Individual Air Transport Association of America (ATA) System Page Evaluation. These pages contain a list of individual items of equipment in the aircraft together with provisions for the operation of the aircraft when the items are inoperative. The reviewing inspector should examine the individual ATA system pages, ensuring that the MEL is at least as restrictive as the MMEL and that operator's procedures are adequate and appropriate. The inspector should also examine the material contained on these pages for conflict with the CV-CARs, with the approved flight manual emergency procedures and limitations, and with the operator's OpSpecs. The following elements are included:

(a) The ATA Numbering System. Operators shall use the standard ATA numbering system, similar to the manner used in the MMEL, for numbering individual pages in this section. An example of this numbering system would be the communications page; the first page would be 23-1; the second page would be 23-2.

(b) Individual Items of Equipment. The MMEL contains listed items of installed equipment that may be inoperative.

(2) All MMEL Items will be listed on the Operator's MEL. All equipment not listed in the MEL must be operative.

(3) MMEL Items Listed on the Operator's MEL. Each piece of equipment that is installed on the aircraft and that is contained in the MMEL, for which the operator seeks relief and that is appropriate for its operation, should be listed on the appropriate page of the operator's MEL within the associated ATA system. The operator may be more restrictive than permitted by the MMEL. Each item title on the operator's MEL will generally be entered exactly as it is shown on the MMEL. Exceptions include the following:

(a) When the MMEL uses a generic term to address equipment that serves a similar function when various operators use different names for that equipment; or

(b) When the MMEL lists functions rather than individual pieces of equipment within that category such as "Navigation Equipment" or "Communications Equipment." In such cases, the MEL must contain a list of the individual equipment items or systems within that category that are actually installed on the aircraft, such as "VHF Communications Transceivers." When items of this type consist of several components of a system, the item may be listed as a complete system, such as "VOR Navigation System," consisting of a VOR navigation receiver and its associated indicator. The inspector should ensure that the operator has not listed inappropriate items or items that are listed individually elsewhere in the MMEL. However, the AAC is authorised to approve generic MMEL relief for navigation or communication equipment that is appropriate such as ILS, VOR, VHF, HF and GPS.

(4) Items Listed on the MMEL but not installed on the Operator's Aircraft. The OI will only accept an item of equipment being listed on the MMEL but not installed on the operator's aircraft by listing the item as shown on the MMEL, and indicating the Number Installed as zero. In this case, the "Number Required for Dispatch" would also be zero, and the remark "Not Installed" will be noted under "Remarks and Exceptions"; repair category designators should be omitted.

(5) Triple Asterisk Symbol (***). The triple asterisk symbol is used in an MMEL to indicate that an item is not installed on some models of the aircraft. Operators shall not produce or use this symbol in the MEL.

(6) Repair Category. Each item of equipment listed in the operator's MEL, except for Administrative Control Items and Passenger Convenience Items, must include the repair category designator for that item as shown on the MMEL. These designators, categorised as "A," "B," "C," or "D," indicate the maximum time that an item may remain inoperative before repair is made. The actual repair categories corresponding to these letters are provided in the "Notes and Definitions" section of the MMEL. The operator may choose to adopt a more restrictive repair category than the one shown on the MMEL, but may not relax the requirement. Components or subsystems of items categorised in the MMEL, such as items of communications or navigation equipment that are not listed individually in the

MMEL, must retain the repair category shown on the MMEL when listed as separate items on the MEL.

(7) Passenger Convenience Items. Passenger convenience items relate to the convenience, comfort, and entertainment of passengers and must never affect the airworthiness of the aircraft. These items do not carry a specific repair category; however, the operator should make repairs to convenience items within a reasonable time frame. Normally, the operator lists these items individually in ATA circulars 25 and 38. Passenger convenience items may be included elsewhere in the MEL if clearly identified as passenger convenience items. OIs should review the proposed MEL to decide which passenger convenience items are components of an item appearing in the MMEL. When listing passenger convenience items on the MEL, the operator must list each item for which the operator wishes relief. Passenger convenience items also apply to cargo aeroplanes, as appropriate.

(8) Administrative Control Items. "Administrative control item" means an item listed by the operator in the MEL for tracking and informational purposes. It may be added to an operator's MEL by approval of the OI, provided no relief is granted, or provided conditions and limitations are contained in an approved document (such as Structural Repair Manual or airworthiness directive). Examples of items that could be considered administrative control items are cockpit procedure cards, medical kits, and life vests. These items should appear in the appropriate ATA circular and would not have a repair category. When the operator chooses this course of action, the OI must examine each proposed administrative control item on the operator's proposed MEL to ensure that the following conditions are met:

(a) No item is included as an administrative control item if it is included elsewhere in the MMEL;

(b) Administrative items are not included as a subsystem of items listed in the MMEL;

(c) Administrative items are not granted relief in the MEL unless the release conditions or limitations are contained in another approved document;

(9) Number of Items Installed. The MEL will normally contain the actual number of items of particular equipment installed on the aircraft. This number may be either greater or less than the number shown on the MMEL. The MMEL shows the number of items installed as the number of those items normally installed on a particular aircraft type. Individual aircraft operated by an operator may have a different number of items. Frequently the MMEL shows a dash in the "Number Installed" column. This dash indicates that variable quantities of these items are usually installed on the aircraft. If the operator has an MEL for a single aircraft or identical aircraft, the actual number of these items on the particular aircraft must be listed in the MEL. If the operator has an MEL for multiple aircraft, and the equipment is not installed on all aircraft or there is a variable quantity between aircraft, the operator's MEL will reference specific aircraft identifications (by registration number) the "Number Installed" on each aircraft or the "Number Installed" column may contain a dash.

(10) Number of Items Required for Dispatch. Normally, the number of items required for dispatch is determined by the State of aircraft design, and may be modified in the MEL in only two cases:

(a) When the item is not installed on the aircraft, in which case a zero will be shown as the number required for dispatch;

(b) When the item is shown in the MMEL as being a variable number required for dispatch.

NOTE: In this case, the reviewing inspector should ascertain that the operator has made a determination as to the number required for dispatch. There can be several factors that establish this number. In some cases, it is determined by a reference to specific requirements listed in the "Remarks or Exceptions" column of the MMEL. An example would be cabin lights. In this case, the MMEL may show a variable number installed while the "Remarks or Exceptions" column might state that 50 percent of those items be operable. The number required for dispatch would therefore be 50 percent of the number of lights determined to be actually installed on the individual aircraft. Another case where the MMEL may show a variable number required for dispatch is when the "Remarks or Exceptions" column of the MMEL contains the statement, "As Required by regulation." In this case, the number is the minimum quantity of these items that must be installed for operations under the least restrictive regulation under which the operator conducts operations.

(11) "Remarks or Exceptions." Certain items demand specific relief developed by the operator as authorised through OpSpecs, area of operation and CV-CARs. "As required by regulation" is not a relief statement. The operator must develop or address the specific requirement of the CV-CARs.

(12) Other Items. Other items in which relief has been specifically written to reflect actions or restrictions to the operation may be changed only when, in the case of the U.S., the FOEB chairman makes a change to the MMEL. Generally they contain "O" and "M" procedures in which the operator develops its company procedures to comply with the MEL.

(13) Evaluation of Associated Documentation. The inspector should evaluate the supporting documentation submitted by the operator to ensure that it is complete and appropriate:

(a) The Operator's Manuals. Inspectors should evaluate the operator's Operations Manual and Maintenance Control Manual to ensure that they contain adequate guidance for the operator's personnel in conducting operations using the MEL. Generally, if the operator does not presently have an MEL program, the applicable portions of its manuals and other guidance material should be submitted at the time the MEL is submitted for initial review. When evaluating the operator's manuals, inspectors should ensure procedures for documenting inoperative equipment (in the aircraft technical log) and any required maintenance procedures are clear. At a minimum, provisions for recording the following items shall be developed:

(i) An identification of the item of equipment involved;

(ii) A description of the nature of the malfunction;

(iii) An identification of the person making the entry;

(iv) The MEL item number for the equipment involved;

(14) Crew Notification. The operator shall establish procedures for advising the pilot in command (PIC) of inoperative items and required procedures such as affixing placards, alternate operating procedures, and instructions for the isolation of malfunctions. The PIC and the operator are both responsible for ensuring that flights are not dispatched or released until all of the requirements of the "O" procedures and "M" procedures have been met.

(15) Flight Restrictions. The operator shall establish procedures to ensure that dispatch or other operational control personnel, as well as the flightcrew, are notified of any flight restrictions required when operating with an item of equipment that is inoperative. These

restrictions may involve maximum altitudes, limitations for the use of ground facilities, weight limitations, or a number of other factors.

(16) Training Program Material. Inspectors should ensure that the operator's flight and ground personnel training programs contain adequate instruction for MEL use.

(17) MEL Management Program. The operators should co-ordinate closely with both the OI and the AI on the MEL management program. Operators must develop an MEL management program as a comprehensive means of controlling the repair of items listed in the approved MEL. Operators must include a description of the program in their maintenance manual, maintenance control manual, or other documents. The MEL management plan must include the following:

(a) A method for tracking the date and time of deferral and repair;

(b) The procedures for controlling extensions to maximum repair categories;

(c) A plan for co-ordinating parts, maintenance, personnel, and aircraft at a specific time and place for repair;

(d) A review of items deferred due to unavailability of parts;

(e) The specific duties and responsibilities of the managers of the MEL management program, listed by job title.

5.1.9 Terms and conditions of relief

5.1.10 This section contains the terms and conditions of relief granted to an operator for operating the aircraft with items of installed equipment that are inoperative. The operator must state the terms and conditions under which operations may be conducted with inoperative items for the operator's particular organisation and aircraft. The reviewing inspector must address the following elements of this section.

5.1.11 Standard Phraseology. When reviewing the MEL, inspectors should ensure that the operator generally uses the phraseology used in the MMEL to ensure clarity and standardisation. In some cases modified phraseology is appropriate for the operator's specific installation.

5.1.12 "As Required by Regulations." The general term, "As Required by Regulations," applies to ATA circulars 23 (Communications), 31 (Instruments), 33 (Lights), and 34 (Navigation Equipment). When this term appears in the "Remarks or Exceptions" section of an MMEL, the operator's MEL must contain the specific conditions that apply. The operator must research the applicable regulations in detail to develop the appropriate provisions that apply to that operator's particular operations. An example of a typical distance measuring equipment (DME) remark could read, "Not required for flights below FL 240."

NOTE: The operator's MEL must clearly establish the actual requirement for its operation when the MMEL stipulates "As required by regulation." It is not acceptable for the MEL to simply refer to the regulation.

5.1.13 "O" and "M" Procedures:

(1) "O" and "M" procedures must contain descriptions of the individual steps necessary to accomplish each process. For example, if the MMEL contains an "M" symbol with a provision that a valve must be closed, the operator must include the appropriate procedures

to close the valve as part of the operator's manual or MEL. The reviewing inspector must ensure that the procedure addresses the following:

(a) How the procedure is accomplished;

(b) The order of accomplishing the elements of the procedure;

(c) The actions necessary to complete the procedure.

(2) For example, if the MMEL contains an "M" symbol with a provision that a valve must be closed, the operator must include detailed steps and actions for closing and testing the valve and installing the placard. The actual written procedures may be contained within the "Remarks or Exceptions" section of the MEL, in separate documents, or attached as an appendix. Inspectors should consult the Guidelines for "O" and "M" Procedures of the MMEL when evaluating these procedures. The section about the Guidelines for "O" and "M" Procedures does not have to be contained within the operator's MEL. If the "O" and "M" procedures are not contained within the MEL, the MEL should include a reference to the location of the procedures.

NOTE: While inspectors should ensure that the procedures are detailed and explicit, it is not necessary that the operator repeat obvious requirements of the MEL item, of the regulation, or of other established standards.

(3) "O" Procedures. The "(O)" symbol indicates a requirement for a specific operations procedure that must be accomplished in planning for and/or operating with the listed item inoperative. Normally, these procedures are accomplished by the flightcrew; however, other personnel may be qualified and authorised to perform certain functions. The satisfactory accomplishment of all procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are required to be published as a part of the operator's manual or MEL.

(4) "M" Procedures. The "(M)" symbol indicates a requirement for a specific maintenance procedure, which must be accomplished prior to operation with the listed item inoperative. Normally these procedures are accomplished by maintenance personnel; however, other personnel may be qualified and authorised to perform certain functions. Maintenance personnel should accomplish procedures requiring specialised knowledge or skill, or requiring the use of tools or test equipment. The satisfactory accomplishment of all maintenance procedures, regardless of who performs them, is the responsibility of the operator. Appropriate procedures are required to be published as part of the operator's manual or MEL.

(5) Provisos. The "Remarks and Exceptions" section of the MMEL generally contains provisos that include specific conditions under which an item of equipment may be inoperative. These provisos must be carried over either verbatim into the operator's MEL or by using equivalent terminology. Provisos are distinct from "O" and "M" procedures. A procedure is an action that must be performed. A proviso is a condition that must exist. For a proviso that operations must be conducted under VFR, an operation under an IFR flight plan is not permitted, regardless of the weather conditions. When reference is made to visual meteorological conditions (VMC), operations may be conducted under an IFR flight plan, but only in VMC.

5.1.14 Demonstration phase

A demonstration phase is normally not required for an MEL approval. When an operator is developing an MEL in conjunction with original certification for initial issuance of an operating certificate, or when instituting service with a new aircraft type, a demonstration of the operator's ability to use an MEL may be conducted during any required aircraft demonstration flight.

5.1.15 OI approval of the operator's MEL

5.1.15.1 The AI must ensure that prior to authorising the use of the approved MEL for an operator that the MEL management program is approved. Once the OI and AI are satisfied that all requirements of this instruction have been met and the MEL is in full compliance with all applicable requirements the OI sends the letter of approval to the operator and stamps and signs the list of effective pages.

6. MEL USE IN SERVICE

6.1.1 General

This section contains specific direction, guidance, and procedures for operations and airworthiness inspectors on the revision, administration, and policy application for administering MELs that have been approved for use by operators operating under the provisions of the CV-CARs.

6.1.2 Revision procedures

6.1.2.1 Revisions to an MEL. Either the operator or the AAC may initiate revisions to an operator's MEL. Operator initiated revisions may be equal to or more restrictive than the Master Minimum Equipment List (MMEL). It is not necessary for an operator to submit an entire MEL when requesting the approval of a revision. The minimum submission would consist of only the affected pages; the approval by the operations inspector (OI) may only consist of specific items. These items are approved within a controlled process, and the operator will produce the final MEL document. If the revision results in individual pages either being added or deleted, a revised table of contents page is also required. The issuance of an airworthiness directive (AD) will not be the basis for change to an operator's MEL. Instead, ADs will be referred to the AAC which will coordinate with the appropriate Civil Aviation Authority or the State of Design for guidance.

NOTE: When operations ("O") or maintenance ("M") procedures are required per the MMEL, it is the operator's responsibility to develop appropriate procedures or to use manufacturer developed procedures in order to meet the requirements for inclusion of the item on the MEL. The OI is not authorised to grant MEL relief unless the operator provides acceptable "O" and "M" procedures.

6.1.2.2 MEL Revision Initiated by an Operator. An operator initiated MEL revision will normally fit into one of the following three categories:

(1) Items Not Requiring an MMEL Change. Operators may propose changes to an MEL that are equal to, or more restrictive than, the MMEL. These revisions are approved by the OI using the same procedures, as those required for an original MEL approval;

(2) Items Requiring an MMEL Change. Operators may request changes to an MEL that are less restrictive than the MMEL. However, the MEL cannot be revised until the MMEL has been revised to permit the proposed MEL change. The most common instance of a revision request of this type occurs when an operator installs additional equipment on an aircraft and provisions for that equipment are not included on the current MMEL;

(3) Major Aircraft Modifications. Major aircraft modifications, such as a supplemental type certificate (STC), a major alteration or a type certificate (TC) amendment, may invalidate the MEL for that aircraft. Operators should follow the established procedures for the approval of major modifications to avoid any conflicts with the MMEL. Since the AAC requires prior approval of major modifications by the State of Design, any impact on the MMEL would have been considered by the State of Design, who, in such cases, would have processed any required MMEL revisions.

6.1.3 MEL Revisions Initiated by the AAC. When the CAA of the State of Design revises an MMEL, operators, manufacturers and the AAC receive notification by printed or electronic means. Such revisions are to be considered as initiated by AAC. Operators must track such revisions and amend the MEL accordingly, as described below:

(1) Non mandatory Revision. MMEL revisions that only provide additional relief are reflected by a lower case letter suffix following the MMEL numeric revision number; for example, MMEL Revision No. 8 would become Non mandatory Revision No. 8a. Any MMEL changes that are less restrictive than the operator's MEL may be ignored by the operator. An example of a non mandatory revision is when the MMEL has been revised to provide for optional equipment normally not installed on all aircraft of a particular type, such as logo lights. Operators that operate aircraft with logo lights may choose to revise the MELs, while operators operating without logo lights would not;

(2) Global Change. A global change is another type of non mandatory revision. A global change generally applies to items of equipment that are required to be installed by a new regulatory requirement, such as a cockpit voice recorder (CVR), or a traffic alert and collision avoidance system (TCAS). Items affected by policy decisions of the CAA of the state of design are also global changes. The global change does not replace the normal MMEL revision process. When a standard revision to an MMEL is issued, it will include all global changes issued to date. However, since the process for revising the MMEL can be lengthy, and the operator's MEL must be based on the MMEL, a global change will allow an operator to revise its MEL prior to the change in the MMEL. The OI has the authority to approve the operator's MEL revision on the basis that the global change is an approved addendum to the existing MMEL. Availability of global changes may be determined by visiting the website of the the State of Design CAA;

(3) Mandatory Revisions. Mandatory changes, which are more restrictive and may remove relief from the current MMEL, are reflected by the next successive change to the basic MMEL revision number itself. For example, the next mandatory revision following the non mandatory revisions 6a, 6b, or 6c would be revision 7. Any MMEL changes that are more restrictive than the operator's MEL will be implemented by the operator as soon as possible. In some cases when relief is removed from the MMEL, there will be a specific date for compliance or guidance for an acceptable date to be negotiated between the OI and the operator. In all cases, the following guidelines apply: where a MMEL revision does not affect a procedure, the time of MEL amendment is 60 days, where it does affect a procedure, amendment time is 90 days;

(4) OI Initiated Revision. The OI may initiate an MEL revision that is not based on a revision to the MMEL. The OI should make such a request to the operator in writing, stating specific reasons why the revision is necessary. An OI initiated revision may be made upon the discovery that an operator has modified an aircraft or that faulty maintenance or operations procedures exist. The OI should work closely with the operator and make every effort to resolve the matter in a mutually agreeable manner. The operator should be given a reasonable time period to make the required changes depending on whether safety of flight is affected. In the event that the operator declines to make the required change, the OI may

consult with the AI to rescind the authority for the MEL. to initiate an amendment of the operator's.

6.1.4 Modifications Within a Fleet. If an operator has been granted approval to use the MEL for a fleet, and the operator installs a new piece of equipment in one or more aircraft, the operator may continue to operate that aircraft under the provisions of the currently approved MEL. The operator may not defer repair of the new item until an appropriate revision to the MEL has been approved.

6.1.5 Tracking of revision status

OIs shall maintain a copy of the current MEL for each assigned operator's aircraft type. The OI should refer to the MMEL and the operator's MEL to track the revision status of the MEL.

6.1.6 Availability of MEL for flight crewmembers

Flight crewmembers must have direct access to the MEL at all times prior to flight. Although not required, the easiest method of compliance with this requirement is for the operator to carry the MEL aboard each aircraft. The operator may choose to use some system of access to the MEL other than the MEL document. For example, the flight crew may obtain access to the MEL through the ARINC Communications Addressing and Reporting System (ACARS). The critical element in approving an alternate form of access is whether or not the flight crew has a direct means of access to the appropriate information in the MEL, specifically "O" and "M" procedures. Direct access should not be construed to mean access through telephone or radio conversations with maintenance or other personnel. If the operator chooses to provide the flight crew with access to the MEL by other than printed means, the method must be approved in the operator's MEL program.

6.1.7 Method of authorising flight crewmember access to MEL

OIs may approve a method other than printed means for providing the flight crew with access to the MEL. Before authorising such a method, the OI must be confident that the operator has an adequate means in place to provide flight crews with the complete equivalent of the actual text of the MEL. This method must be described in detail in the operator's AAC Operations Manual or equivalent. When the decision is made to authorise this alternative method, the OI should use appropriate provisions, by referring the applicable CV-CARs and the appropriate section of the operator's manual.

6.1.8 Discrepancies discovered during flight

Use of the MEL is not applicable to discrepancies or malfunctions that occur or are discovered during flight. Once an aircraft moves under its own power, the flight crew must handle any equipment failure in accordance with the approved flight manual. A flight is considered to have departed when the aircraft moves under its own power for the purpose of flight. Discrepancies occasionally occur between the time the flight departs and the time it takes off. If the flight manual contains procedures for handling that discrepancy, or if the pilot in command (PIC) deems that the discrepancy does not affect the safety of flight, the flight may continue. The discrepancy must be addressed prior to the next departure. For those operators who are required to use a dispatch or flight release, the PIC must handle a discrepancy that occurs after the issuance of the release, but before the flight departs, in accordance with the MEL. The PIC must obtain a new or amended dispatch or flight release, as well as any required airworthiness release. This new or amended release must contain any applicable flight restrictions necessary for operation with any item of equipment that is inoperative.

6.1.9 Documentation of discrepancies

Provisions of the MMEL preamble require that an airworthiness release be issued or an entry be made in the aircraft technical log prior to conducting any operations with items of equipment that are inoperative.

6.1.10 Conflict with airworthiness directives

Occasionally an AD may apply to an item of equipment that may be authorised to be inoperative under the MEL. The item may not simply be deferred under the MEL in order to avoid or delay compliance with the AD. In all cases, when an AD has been issued, the operator must comply fully with the terms of the AD. In other cases, the provisions of an AD may allow operation of the aircraft on the condition that certain items of installed equipment be used or be operable. In those cases, the affected items must be operable even though the MEL may provide for deferral of repair.

6.1.11 Interrelationships of inoperative components

When the MEL authorises a component of a system to be inoperative, only that component may be affected. When a system is authorised to be inoperative, individual components of that system may also be inoperative. Any warning or caution systems associated with that system must be operative unless specific relief is authorised in the MEL. The operator must consider the interrelationship of inoperative components. This consideration must include the following:

(1) The interrelationship of one piece of equipment on another;

(2) The crew workload;

(3) The operation of the aircraft;

(4) The flight restrictions.

6.1.12 Repair categories

When an item of equipment becomes inoperative, and repair is deferred under an MEL, the operator must make repairs as specified by the associated repair category designator ("A," "B," "C," or "D") and the operator's MEL management system. In the event that more items are installed then those that are required for normal operation, the "C" repair category may be used. For example, if one altitude alerting system is required and the associated repair category is "B," but there are two such systems installed, failure of the first system could be deferred as specified for a "C" category item (10 days). Failure of the remaining system would limit at least one system to the repair category for the "B" category item (3 days). See the definitions section of the MMEL for an explanation of repair categories.

7. MEL FOR LEASED AIRCRAFT

7.1.1 MEL for Leased Foreign Registered Aircraft:

(1) An MEL for a particular leased foreign registered aircraft must not be less restrictive than the AAC approved MEL for the same type of aircraft;

(2) The foreign country of registration of the leased aircraft may require that their aircraft be operated in accordance with their approved MEL, in which case any less restrictive changes to this MEL must be approved by the foreign regulatory authority. In such case the AAC will coordinate with the State of Registry, to ensure that its approval of the MEL does not affect the aeroplane’s compliance with the airworthiness requirements applicable in that State.

7.1.2 MELs for Foreign Leased CV-ambique Registered Aircraft

7.1.2.1 AAC reviews each lease and approves or accepts the use of an MEL for such aircraft based on whether a bilateral airworthiness agreement or a technical arrangement exists between AAC and the foreign regulatory authority and it has been determined that the MEL procedures are acceptable.

7.1.2.2 If there is no agreement between AAC and the foreign authority a review of the foreign operator's MEL is conducted to determine that it is consistent with the CV-ambique airworthiness requirements.

7.2 CONFIGURATION DEVIATION LISTS

7.2.1 General

This section contains information concerning the development and approval processes of configuration deviation lists (CDL). Transport aircraft may be approved for operations with missing secondary airframe and engine parts. Approval for operating with these parts missing would be authorised by the State of aircraft design. Evaluation and approval of CDLs are functions of the State of aircraft design.

7.2.2 Development and approval of a CDL

An aircraft manufacturer develops a proposed CDL for a specific aircraft type. Engineering specialists submit the proposed CDL to the responsible CAA of the State of design for approval.

7.2.3 Use of the CDL

Operators must follow the CDL limitations when operating with a configuration deviation. Operators are required to observe the following:

(1) The limitations in the CDL when operating with certain equipment missing (except as noted in the appendix to the Approved Flight Manual);

(2) The flight operations, restrictions, or limitations that are associated with each missing airframe and engine part;

(3) Any placard(s) required by the CDL describing associated limitations, which must be affixed in the cockpit in clear view of the pilot in command (PIC) and other appropriate crewmembers.

7.2.4 CDL use approval

7.2.4.1 It is the AAC responsibility to ensure that operators comply with any applicable approvals for the use of the CDL, issued by the State of Registry and/or State of Design.

7.2.4.2 The operations inspector (OI) must ensure that the operator has developed appropriate procedures for the PIC and, if appropriate, procedures for notifying dispatch of the CDL missing parts by an appropriate notation in the aircraft technical logbook or other acceptable means.

João dos Reis Monteiro
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