Advisory Circular

CAA-AC-GEN005A
June 2018

MINIMUM EQUIPMENT LIST (MEL) PREPARATION GUIDE

1.0 PURPOSE

This Advisory Circular (AC) is to provide guidance to operators for the development of a Minimum Equipment List (MEL) which constitutes an integral part of the operator's Flight Safety Document System. The MEL is part of Operations Manuals Part B (Aircraft Operating Matters), however, it is generally produced as a standalone manual.

Cancellation; Advisory circular dated April 2018 is hereby cancelled.

2.0 REFERENCES

2.1 Civil Aviation (Air Operator Certification and Administration) Regulations, as amended
2.2 Civil Aviation (Operation of Aircraft-Commercial Air Transport) Regulations, as amended
2.3 Civil Aviation (Operation of Aircraft-Helicopter) Regulations, as amended
2.4 Civil Aviation (Instrument & Equipment) Regulations, as amended

3.0 GENERAL

3.1 Operational and airworthiness requirements (including aircraft type design approval requirements) require that every item of equipment installed in the aircraft must be operational at the beginning of a flight. However, because of the various levels of redundancy designed into aircraft, under certain conditions 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. Many aircraft also have equipment installed that is not required for safe operation under certain operating conditions (e.g. instrument lighting in day visual meteorological conditions [VMC]). Other equipment, such as entertainment systems or galley equipment, may be installed for operators' operational considerations.

3.2 Each operator is required to produce an MEL appropriate to his own routes and procedures within the limitations defined by the Master Minimum Equipment List (MMEL) for the aircraft. An approved MEL is a document that allows for the operation of a specific aircraft under specific conditions with a particular item(s) of equipment inoperative at the time of dispatch for the intended flight. Despite the inoperative equipment, the aircraft still complies with its type design standards.

3.3 Aircraft may also be approved for operations with missing secondary airframe and engine parts. Approval for operating with these parts missing is authorised by the State of aircraft design. Evaluation and approval of Configuration Deviation List (CDL) are functions of the State of

aircraft design. The Authority does not undertake approval of CDL, however, acceptance is given.

4.0 MASTER MINIMUM EQUIPMENT LIST (MMEL) vs MEL

4.1 An MMEL is a document created specifically to regulate the continued operation of an aircraft type with inoperative equipment. It is a list of items of equipment that may be temporarily inoperative under certain conditions and limitations, while still maintaining the level of safety intended in the design standards. The MMEL does not take into account the operating circumstances of individual operators of that type and is therefore generic in nature. KCAA does not approve MMEL for operators use. It is, however, the basis for the development of an individual operators MEL. Normally the MMEL is developed by the aircraft manufacturer in conjunction with operators and is approved/accepted by the appropriate State of design {National Aviation Authority (NAA)}. KCAA only accepts MMELs approved by the NAA of the state of design as part of the type certificate or Type Acceptance Certificate.

4.2 An approved MEL consists of an approved list of the specific inoperative equipment for a particular make and model of aircraft by serial and registration mark (e.g. DHC 8-100, 5Y-XXX). Its use is authorised by accepting the associated application procedures contained in an operator's maintenance control manual (MCM) and/or Operations Manual, or other appropriately documented procedures. The operator prepares an MEL, taking into account the certificated seating capacity, aircraft configuration, operating environment and regulatory requirements.

4.3 This MEL is then submitted to KCAA for consideration of approval. An approved MEL for an aircraft is a non-transferable document, i.e. if the Certificate of Registration (CoR) holder of the aircraft changes, then new approval for the MEL is required even if the aircraft retains the same registration mark. MEL approvals should be notated to this effect.

4.4 The MMEL/MEL is an alleviating document. Its purpose is not to encourage the operation of aircraft with inoperative equipment. It is never desirable that aircraft continue operations with inoperative equipment. Such operations are permitted only as a result of careful analysis of each item to ensure that the required level of safety is maintained. A fundamental consideration in permitting the operation of aircraft with inoperative equipment is that the continued operation of an aircraft in this condition should be minimised.

4.5 A current MMEL for a given aircraft would normally be obtained from the organization responsible for the type design of the aircraft or from the Civil Aviation Authority of the certifying State.

4.6 Equipment Included in the MMEL/MEL

Most aircraft are designed and certified with a significant amount of equipment redundancy, such that the airworthiness requirements are satisfied by a substantial margin. Additionally, aircraft are generally fitted with equipment that is not required for safe operation under all operating conditions, e.g. instrument lighting in day VMC. Other equipment such as entertainment systems or galley equipment may be installed for passenger convenience. If this non-safety related equipment does not affect the continued airworthiness or safe operation of the aircraft when inoperative, it need not be listed in the MMEL/MEL or be given a rectification interval. However, if the non-safety related equipment has another function related to safety (such as use of the entertainment system for passenger briefings) then this item must be included in the MMEL/MEL with an appropriate rectification interval.

It follows that all items related to the continued airworthiness of the aircraft and not included in the MMEL are automatically required to be operative prior to flight.

5.0 OPERATOR MINIMUM EQUIPMENT LIST (MEL)

5.1 The MEL is developed from the latest issue of the applicable MMEL on an item-by-item basis and keeping in view the relevant regulatory requirements. If an applicable MMEL covers more than one model of the aircraft type, it is acceptable to have different models of the aircraft type covered in an operators approved MEL. However, differences (if any) must be identified in the operator's approved MEL by registration marks or aircraft manufacturer's serial numbers. The MEL should be tailored to the individual operator's routes and procedures within the constraints imposed by the MMEL. The aircraft operator should develop their MEL and all subsequent amendments, as a joint operations and maintenance project, based on the current MMEL revision.

5.2 In developing an MEL, the philosophy should be to authorize dispatch with inoperative equipment only when the inoperative equipment does not render the aircraft unairworthy for the particular flight. Limitations, procedures and substitutions may be used to provide conditions under which the inoperative equipment will not make the operation unsafe or the aircraft unairworthy. This is not a philosophy which permits reduced safety in order to fly to a base where repairs can be made, but rather a philosophy which permits safe operations for a take-off from a maintenance base or an en-route stop. It is emphasized that the operator will need to exercise close operational control over the use of the MEL by all concerned.

5.3 Regulation 10 of the Civil Aviation (Operation of Aircraft) Regulations requires that an Air Operator carries an MEL on board. The MEL must cover requirements and procedures for dispatch with unserviceable equipment.

5.4 In general, non-safety related equipment such as galley equipment, passenger convenience items or optional items, should not be listed in the MEL. Operators should establish an effective decision making process for failures that are not listed to determine if they are related to airworthiness and required for safe operation.

5.5 Special considerations & Special Authorizations.

Inoperative equipment may have an impact on either airworthiness or operational requirements, which should be considered when deviating beyond the requirements in the MMEL as this:

- They may affect navigation or route authorisations, such as:
  - − Performance based navigation (PBN)
  - − Reduced vertical separation minimum (RVSM)
  - − Extended twin operations (ETOPS)
  - − Single Engine Turbine Aeroplanes operations at night and/or in IMC (ASETPA) etc.

(*The operator must address the special authorizations items in the MEL where such authorization is sought, see Appendix C for an example)*

- electrical bus failure may affect avionics components critical for flight and/or operational requirements
- may cause undue pilot workload or other human factors issues e.g. the global navigation satellite system (GNSS) may affect operations of other aircraft systems

5.6 Operations and maintenance procedures

5.6.1 The objective of operations (O) and maintenance (M) procedures is to provide all people using the document with clear and concise directions on how they are to proceed in case of permissible unserviceability's. The (O) and (M) procedures form part of the approved MEL. Operators must develop detailed instructions for use by pilots (O) and maintenance personnel (M) that are appropriate to the operator's systems and type of operation.

5.6.2 The operator, when comparing the MEL against the MMEL, must ensure that where the (O) or (M) symbols appear, an operating or maintenance procedure has been developed that provides clear direction to the crew members and maintenance personnel of the action to be taken.

5.7 Procedures for the use and guidance of flight crews and maintenance personnel.

5.7.1 The operator must establish procedures for the use and guidance of flight crew and maintenance personnel, in relation to the MEL. These procedures must agree with those in the operator's MCM, AMP, Operations Manual, and other operating documents. These procedures should include, but are not limited to, procedures for:

- deferring rectification action or invoking MEL item(s) for inoperative equipment
- placarding requirements as per the MEL
- ensuring that a dispatched aircraft with an invoked MEL item(s) complies with the limits and conditions of the MEL
- controlling categorised repair intervals
- the training of company personnel who are responsible for compliance with MEL procedures.

5.7.1.2 Some items/systems listed in the MMEL/MEL contain standard phrases such as "provided alternate, normal and emergency procedures, and/or operating restrictions are established and used." The intent of such provisions is that it is incumbent on the operator to develop the necessary manual instructions for his personnel so that appropriate action will be taken, resulting in an acceptable level of safety.

5.7.1.3 When operating in accordance with the MEL, the communications equipment used between the flight deck and the cabin crew (whether inoperative or functional), require specific instructions for inclusion in the appropriate air operator's manuals: the Flight Manual, Aircraft Operating Manual, Operations Manual and Cabin Crew Member Manual. In some cases it may be appropriate to include such instructions in the operators MEL (O) procedure. Instructions in these manuals concerning specific inoperative equipment situations must be consistent with instructions in the other manuals.

5.7.1.4 To ensure a clear understanding of the action to be taken in emergency or abnormal situations, the pilot in command (PIC) will brief the flight crew, lead cabin crew and/or concerned cabin crew on the procedures to be followed. Examples of methods of cockpit notification to cabin could include various cockpit combinations such as cabin chimes to indicate different events, use of a separate evacuation signalling system, PA announcements, etc. The briefing is to ensure that when cabin/flight deck communication equipment becomes inoperative, procedures to be followed for each of the following events can be carried out:

- Fire and/or smoke in the flight deck or passenger cabin;
- Hi-jacking;
- Ditching;
- Emergency landing;
- Evacuation of the passenger cabin/Rejected Take-off evacuation; or
- Passenger problem (medical/disturbance).

5.7.2 **Warning signs and placarding**

5.7.2.1 All inoperative items must be placarded as inoperative to inform flight crew members and maintenance personnel of equipment condition, where possible and practical. While the MMEL may require specific wording for some items, in the majority of cases, unless otherwise mentioned in the applicable MMEL, the operator may choose the placard wording and location at their discretion. However, to the extent practicable, placards should be located as indicated in the MEL, or adjacent to the affected item.

A placarding procedure should be established and set out in the MCM and operations manual or, at least, within the approved MEL document. The method of control of placarding must ensure that all inoperative items are placarded and placards are removed and accounted for when the defect is cleared.

5.7.2.2 **Placard Criteria**

Where possible placards should be self-adhesive and contain sufficient information about the defect such that the pilot in command clearly understands the effect of the defect on the aircraft's continued safe operation.

5.7.3 If a defect occurs at a base where maintenance personnel are not available and the MEL does not require maintenance action, the flight crew may install a placard as required by the MEL. On arrival at the next maintenance base, maintenance personnel must ensure that the placarding has been completed in accordance with the either the MEL requirements, the MCM and/or operations manual procedures. It is the responsibility of the operator to provide the capability and instructions to the flight crew to ensure that the placard is in place prior to commencing the intended flight.

6.0 OPERATOR RESPONSIBILITIES|

6.1 An operator is responsible for exercising the necessary operational control to ensure that his aircraft are not dispatched with multiple MEL items inoperative without first determining that any interface or interrelationship between the inoperative systems or components will not result in degradation in the level of safety or an undue increase in crew workload. The operator must establish procedures whereby the maintenance support periodically reviews the deferred items. This is done to ensure that any accumulation of deferred items neither conflict with each other nor presents an unacceptable increase in crew workload. Notwithstanding the categorisation of item repair intervals, it should be the aim of each MEL document holder to ensure that inoperative items are repaired as quickly as possible.

6.2 The MEL is not intended to provide for continued operation of the aircraft for extended periods exceeding the time limitations as permitted by the MEL. Each item of an MEL must be repaired within the specified repair interval. These intervals are set to limit the maximum time an aircraft may fly with an inoperative item(s) of equipment, and are designated Category 'A, B, C or D'. The operator is responsible for establishing an effective rectification programme that includes tracking of the inoperative items and co-ordinating parts, personnel, facilities and procedures necessary to ensure timely rectification.

6.3 The exposure to additional failures during continued operation with inoperative systems or equipment must also be considered in determining that an acceptable level of safety is being maintained. The MEL is not allowed to deviate from requirements of the flight manual limitations section, emergency procedures or other airworthiness requirements of the State of Registry or of the Authority unless the appropriate airworthiness authority or the flight manual provides otherwise.

6.4 Systems or equipment accepted as inoperative for a flight should be placarded where appropriate and all such items shall be noted in the aircraft technical log to inform the flight crew and maintenance personnel of the inoperative system or equipment.

6.5 For a particular system or item of equipment to be accepted as inoperative, it may be necessary to establish a maintenance procedure, for completion prior to flight, to deactivate or isolate the system or equipment. It may similarly be necessary to prepare an appropriate flight crew operating procedure.

6.6 The decision of the Pilot in Command (PIC) to have allowable inoperative items corrected prior to flight will take precedence over the provisions contained in the MEL. The Commander may request requirements above the minimum listed whenever, in his/her judgement, such added equipment is essential to the safety of a particular flight under the special conditions prevailing at the time.

6.7 **Equipment failure after dispatch**

6.7.1 Operators should include a procedure for handling equipment or instrument failures that occur between the aircraft being released for flight and the start of the take-off roll. The procedure should allow the PIC to communicate with the maintenance organisation, to review the situation and determine whether the flight should:

- return for repairs (the failed equipment is a 'no-go' item)
- return to accomplish an (M) procedure specified in the MEL before continuing the flight
- continue using the alternate procedure (abnormal procedure) for operating with the inoperative item.

6.7.2 The operator's procedure may also provide for the flight to continue when the PIC determines that the flight can be operated safely using an alternate procedure, without communicating with the maintenance organisations.

6.8 MEL training program

6.8.1 The operator must develop an MEL training program for maintenance personnel and flight crew, which must be in place prior to an operator commencing operations with an MEL. The operator, when required, should conduct recurrent training, or put in place a controlled method to alert staff to any changes in MEL procedures. This will ensure company personnel remain current with those procedures.

6.8.2 The training for maintenance personnel should include those sections of the MCM procedures dealing with the use of, and compliance with, the MEL, placarding of inoperative equipment, return to service of an aircraft, dispatching an aircraft and any other MEL related procedures.

6.8.3 The training for flight crew personnel would normally be included as part of their initial/recurrent training. The details of such a training program is stated in the operator's Operations Manual Part D. The flight crew training should include, but not be limited to the purpose & use of an MEL, instruction on operator's procedures for the use & guidance of flight crew and the PIC's responsibility with respect to the above procedures.

The dispatch personnel shall also receive appropriate MEL training during initial and recurrent training as appropriate.

7.0 MEL APPROVAL PROCESS

7.1 Application for approval of an MEL: An operator submitting an MEL for approval must provide the Authority with:

- a letter requesting approval of the MEL
- at least two copies of the proposed MEL.
- A copy of the MMEL (can be submitted in soft copy)

MEL Acceptability

7.1.1 The general criteria for MEL acceptability are as follows:

a) *Equally or More Restrictive.* The operator's MEL must not be less restrictive than the MMEL, KCARs, the operations specifications, the aircraft flight manual limitations, certification maintenance procedures, or airworthiness directives (ADs);

b) *Appropriate.* Must be appropriate to the individual aircraft type and model;

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

d) *Applicability.* An MEL shall be applicable to the civil aviation regulations under which the operator is certificated.

7.2 Initial Phase of MEL Approval

7.2.1 *Phase overview:* In this phase of the MEL approval process, the operator should consult with the Authority regarding requirements for either developing an MEL or for revising an existing MEL. Normally, the "O" and "M" procedures are accepted on the basis of the MMEL, unless amended by the applicant.

NOTE: Several manufacturers have produced manuals of recommended procedures for operating with inoperative equipment. The Boeing Dispatch Deviation Procedures Guide (DDPG) is an example of these manuals. When a manufacturer's recommended procedures exist, operators shall use them. Where a manufacturer recommended procedures do not exist, operators should coordinate with the manufacturer in developing specific procedures.

7.2.2 Document Form. The operator may submit MEL draft documents to the Authority either on hard copy (printed on paper) or on computer disk, as mutually agreed upon between the operator and the Authority. The operator and the Authority 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 Authority.

7.3 Generic Single Engine MMELs. Where a generic MMEL for single engine aircraft has been developed by the State of design, this MMEL may be used for single engine aeroplane and helicopters of that State if a specific MMEL has **not** been issued. Operators may use this generic MMEL in constructing their MEL. When an operator is approved to use this generic MMEL as the basis for his MEL, and a specific MMEL for the individual aircraft type is subsequently issued, the operator's MEL must be revised within a specified time frame prescribed by the Authority to conform with the specific MMEL.

7.4 Final Phase of MEL Approval Process

7.4.1 The final phase begins when the operator formally submits the proposed MEL or MEL changes to the Authority.

7.4.1 Unacceptable Submittal. An incomplete submission is not acceptable.

7.4.2 Acceptable Submittal. Detailed analysis begins when the Authority finds the proposed MEL package to be complete and to contain the required information in an acceptable format. If the operator does not currently have an MEL programme, its MEL management programme must also be reviewed for acceptability.

7.4.3 MMEL Items not listed on the Operator's MEL. If items listed on the MMEL are not listed on the MEL there is no relief;

a) **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 by not listing certain items in its MEL. Each item title on the operator's MEL will generally be entered exactly as it is shown on the MMEL. Exceptions include the following:

(i) 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

(ii) 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.

b) **Items Listed on the MMEL but not installed on the Operator's Aircraft**. Several acceptable methods of dealing with an item of equipment being listed on the MMEL but not installed on the operator’s aircraft. One method is to simply omit the item from the MEL altogether, in this case, for subsequent items the operator shall retain the numbering as contained in the MMEL to provide proper continuity. Another method is to list the item as shown on the MMEL and to show the number installed as zero. In this case, the “number required for dispatch” would also be zero, and the remark “not installed” may be noted under “remarks and exceptions”; repair category designators should be omitted.

c) **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 should not produce or use this symbol in the MEL;

d) **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;

e) **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 chapters 25 and 38. Passenger convenience items may be included elsewhere in the MEL if clearly identified as passenger convenience items. 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:

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

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

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

f) **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;

g) **Number of Items Required for Dispatch**. Normally, the number of items required for dispatch is determined by the State of aircraft design.

h) **Flight Restrictions**. The operator should establish procedures to ensure that dispatch or other operational control personnel, as well as the flight crew, 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;

i) **Training Programme Material**. Operator's flight and ground personnel training programmes contain adequate instruction for MEL use;

j) **MEL Management Programme**. Operators must develop an MEL management programme as a comprehensive means of controlling the repair of items listed in the approved MEL. Operators must include a description of the programme in their maintenance manual, maintenance control manual, or other documents. The MEL management plan must include the following:

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

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

(iii) A plan for co-ordinating parts, maintenance, personnel, and aircraft at a specific time and place for repair;
(iv) A review of items deferred due to unavailability of parts; and
(v) The specific duties and responsibilities of the managers of the MEL management programme, listed by job title.

7.4.4 Terms and Conditions of Relief

7.4.4.1 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 operator must address the following elements of this section:

a) **Standard Phraseology**. Operator shall generally use the phraseology used in the MMEL to ensure clarity and standardisation;
b) **"As Required by Regulations."** The general term, "As Required by Regulations," applies to ATA chapters 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 usually must research the applicable regulations in detail to develop the appropriate provisions that apply to that operator's particular operations. An example of 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*

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.

7.5 Application for amendment to the MEL: Amendments to MELs are either mandatory or voluntary, depending upon the particular circumstances. Mandatory amendment of an MEL is required either when the applicable MMEL is amended so as to become more restrictive or when required by KCAA in light of regulatory changes or in the interest of safety. The operator shall submit amendments to the Authority for evaluation and subsequent approval.

7.6 Continuing Authorisations.
The certificate holder is not authorised to extend any maximum repair category, however, he may apply for authorization from the Authority to continue operating an aircraft for a certain period beyond MEL limits. The application shall contain the following;

a) Application letter that identifies the reason for seeking the defect deferment and repair category as specified in approve MEL.

b) Risk assessment on defect deferment on remaining operational system/component failing.

c) Manufacturer no technical objection on extension of deferred defect beyond MEL limit.

d) Approved MEL Extract of the deferred defect.

e) Existence of mandatory continuing airworthiness requirements affecting the deferred unserviceable component/system.

f) For all spares on order, copy of proof of order to be attached when requesting for extension.

Kenya Civil Aviation Authority

Appendix A

1. MEL Format

1.1 The MEL must include as a minimum:

- a list of effective pages (LEP)
- a table of contents
- amendment record page
- the MEL preamble
- the notes and definitions
- a section for each aircraft ATA Chapter and the items covered within those chapters
- the appropriate (O) and (M) procedures
- the appropriate repair intervals (usually stated in the MEL preamble)
- Rectification Interval Categories

Definitions shall be based upon, but no less restrictive than, the relevant MMEL. Aircraft owners must specify the revision status of the MMEL and MMEL Supplement, and any other documents such as a Dispatch Deviations Guide, used in the development of their MEL

2 List of effective pages

2.1 The LEP is used to ensure that each MEL is up to date. It must list the date of the last revision for each page. A List of Effective Pages (LEP) will be used to ensure that each MEL is up-to-date. It must list the date of the last amendment for each page of the MEL. The date and revision status of each page of the MEL must correspond to that shown on the List of Effective Pages.

2.2 The date and revision status of each page of the MEL must correspond to that shown on the LEP.

3 Table of contents

3.1 The table of contents page lists the section for each aircraft system utilizing the ATA numbering system, as found in the MMEL. The Table of Contents page should list the section for each aircraft system using the ATA 2200 listing as found in the MMEL. Pages should be numbered with the ATA system number followed by the item number for that system (e.g., the page following 27-2-1 would be 27-2-2).

4 Chapter and page numbering

4.1 The ATA numbering system and sequence numbers are to be used as found in the MMEL.

4.2 Pages will be numbered with the ATA numbering system followed by the page number for that system (e.g. Flight Controls, 27-1, 27-2-7). It is recommended that the MEL page format should follow the normal MMEL page format of five columns. The page numbering and individual MEL items should be in accordance with the ATA 2200 code system. MEL format is at the discretion of the aircraft operator, provided that it is clear and unambiguous.

Appendix B

Common Deficiencies Encountered During Assessment of the MEL

1. The MEL submission is incomplete
The assessment of the submitted MEL can only take place following receipt of the letter of request and supporting documentation.

2. The MEL Preamble does not reflect the intent of the standard MMEL preamble
The preamble expresses the MEL philosophy and establishes the conditions for the use of the MEL. The standard MMEL preamble section must be modified by the operator to **only** suit the regulations, aircraft and type of operation.
Note: The Preamble, notes and definitions in the MEL should not contradict the applicable sections in the MMEL.

3. The MEL refers to other National Aviation Authority Regulations
Where the MMEL refers to other NAA regulations, these should be changed in the submitted MEL to refer to KCAA requirements contained in the Civil Aviation (Instrument & Equipment) Regulations.

5. The MEL does not take into account Civil Aviation (Instrument & Equipment) Regulations
We require the operator to use the applicable KCARs to identify specific numbers of equipment and the conditions when they are required. Where the MMEL column 5 states, "As per National Regulations", or "Any in excess of those required", or similar statements, this wording must not appear in the MEL; instead, the content should be developed in consideration of the equipment requirements of Civil Aviation (Instrument & Equipment) Regulations

6. The MEL uses references to other documents which may not be on board
The approved MEL is intended to be a single source document to provide personnel with clear, concise direction. It would not be acceptable to make reference to other documents as these may not be carried on board or could be subject to misinterpretation. E.g. it would not be acceptable to only state the regulation reference.

7. The MEL has not been customized to the aircraft
The MEL must take into consideration the particular aircraft equipment and configuration.
For example:

a) The 'number installed' and/or 'number required for dispatch' must be stated where appropriate {Triple Asterisk Symbol (***) – the operator should not re-produce or use this symbol in the MEL}
b) Where optional items i.e. Service Bulletin/Modifications are referenced in the MMEL for the generic aircraft type, only the appropriate entries, which reflect the actual modification status, are required to be included in the aircraft MEL.
c) Where the MMEL and/or TC holders source O&M procedures require the operator to develop 'Alternate Procedures' these must be developed and included in the operators MEL or O&M procedure.
d) Specific operational authorizations e.g. RVSM, EDTO, PBN, Single Engine Turbine Powered Aeroplane at night and/or in IMC

Appendix C

Examples of Special Authorizations MEL items

1. SYSTEM, SEQUENCE NUMBERS AND ITEM		2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
22 – AUTO FLIGHT				
22–10–2. Flight Directors				
FCC Channels	C	4	3	One channel may be inoperative. **NOTE:** Associated autopilot (AFCS 1 or 2) will be inoperative.
	C	4	2	**(O)** Two FCC channels may be inoperative provided AFCS 1 or 2 is operative.
	B	4	1	**(O)** Except for RVSM Operations, may be inoperative provided: a) AFCS 1 and 2 are considered inoperative, b) One Yaw Damper is verified operative, and c) Approach minimums or operating procedures are not dependent on their use.
5. MAINTENANCE PROCEDURES (M) None required.				
6. OPERATIONAL PROCEDURES (O) A. If two FCC channels are inoperative and AFCS 1 or 2 is operative, select the AFCS switch to the operative side. OR				

1. SYSTEM, SEQUENCE NUMBERS AND ITEM		2. NUMBER INSTALLED	3. NUMBER REQUIRED FOR DISPATCH	4. REMARKS OR EXCEPTIONS
34 – NAVIGATION				
34–54–1. Air Traffic Control (ATC) Transponders				
	C	2	0	May be inoperative provided: a) En route operations do not require its use, and b) Prior to flight, approval is obtained from ATC facilities having jurisdiction over the planned route of flight. **NOTE:** This item is RVSM critical.
	C	2	1	One must be operative for flight in controlled airspace, unless prior A.T.C. approval granted. **NOTE:** For RVSM operations, at least one ATC transponder and automatic altitude reporting system must be operative.
5. MAINTENANCE PROCEDURES (M) None required.				
6. OPERATIONAL PROCEDURES (O) None required.				