

CHAPTER 8

Approval and Acceptance of Minimum Equipment Lists (MELs) and Configuration Deviation Lists (CDLs)

1.0 PURPOSE

1.1 This Chapter provides guidance to both Flight Operations and Airworthiness Inspectors on the continued operation of an aircraft with specific items of equipment inoperative under certain circumstances.

2.0 REFERENCE

- 2.1 Regulation [9.3.1.12](#) of the Nigeria Civil Aviation Regulations.
- 2.2 [Part 7](#) of the Nigeria Civil Aviation Regulations.
- 2.3 Master Minimum Equipment List (MMEL) and Configuration Deviation List (CDL) as applicable.
- 2.4 CHECKLIST: [CL:O-OPS008](#)

3.0 GENERAL

- 3.1 This Order contains:
 - 3.1.1 Definitions and a general overview of the MEL / CDL systems;
 - 3.1.2 Information and guidance on developing and approving MELs;
 - 3.1.3 Information and guidance for operations and airworthiness inspectors on MEL/CDL use during operations; and
 - 3.1.4 Information about the development, approval, and usage of the CDL.

4.0 APPLICABILITY

The Flight Operations Inspector (FOI) is the primary Authority official responsible for the overall process of administering, evaluating, and approving an operator's MEL as well as accepting the CDL where applicable.

It is essential that the FOI works with the Airworthiness Inspector (AWI), and other individuals or groups involved in this process.



5.0 DEFINITIONS

- 5.1 Aircraft Evaluation Group (AEG) of the State of Design.** The AEG in the State of Manufacturer is responsible for the development, revision and publication of an MMEL for those aircraft within its area of responsibility;
- 5.2 Aeroplane Flight Manual (AFM)/Rotorcraft Flight Manual (RFM).** The term, aircraft flight manual, can apply to either an AFM or an RFM. The Aircraft flight manual is the document approved by the responsible authority for aircraft certification during type certification. The approved aircraft flight manual for the specific aircraft is listed on the applicable type certificate data sheet. The approved aircraft flight manual is the source document for operational limitations and performance parameters for an aircraft. The Authority requires an approved aircraft flight manual for aircraft type certification;
- 5.3 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 Authority requires an AMM for aircraft certification;
- 5.4 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;
- 5.5 Configuration Deviation List (CDL).** Aircraft certified under the provisions of a State's Civil Air Regulations 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.
- 5.6 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;
- 5.7 Master Minimum Equipment List (MMEL).** The MMEL is a list of equipment that the Authority of the State of manufacturer has determined that they 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;
- 5.8 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;



6.0 PURPOSE OF MEL

- 6.1** The Regulations permit the authorisation of an MEL if the Authority 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.
- 6.2** 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 instruments, components and equipment would ground the aircraft until repair or replacement of the non-functioning equipment. An MEL is approved for a specific make and model of aircraft, and the use of it is authorised by its Operations Specifications.

7.0 ITEMS LISTED ON THE MEL

- 7.1** There are three or two categories of items that may be contained in the operator's MEL:
- 7.1.1 MMEL items; and
 - 7.1.2 Passenger convenience items.
 - 7.1.3 Administrative control items
- 7.2** **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.
- 7.3** **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 and the FOI 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 FOI, and included in the air operator's appropriate document.

8.0 TIMELY REPAIR OF ITEMS THAT ARE INOPERATIVE

- 8.1** 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 programme.
- 8.2** **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.

- 8.3 Day of Discovery.** The day of discovery is the calendar day an equipment malfunction was recorded in the aircraft technical log or record. This day is excluded from the calendar days or flight days specified in the MEL for the repair of an inoperative item of equipment. This provision is applicable to all MEL items, such as categories "A," "B," "C," and "D." The operator and the FOI 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. The reference time shall be based on Universal Time Coordinated (UTC).
- 8.4 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.
- 8.5 Continuing Authorisations.** Approval of an MEL authorises an operator to use a continuing authorisation to approve extensions to the maximum repair interval for category "B" and "C", provided the Authority is notified within 24 hours of the operator's exercise of extension authority. 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 an amendment of the operator's Operations Specifications by removing the operator's authority to use an MEL.

9.0 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 Regulations 8.5.1.18 and 8.5.1.19 of the Nigeria Civil Aviation Regulations.

10.0 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 en-route.

11.0 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 will reference any specific aeroplane identification (usually registration number) unless the operator determines that there is need to do so.



12.0 ACCESS TO MEL

Regulation 9.3.1.12 of the Nigeria Civil Aviation Regulations requires that the MEL is made available for use among others by the flight crewmembers. This implies the MEL should be carried aboard the aircraft or that the flight crews have direct access to the MEL information prior to flight. Other means of direct access require approval.

13.0 CONFLICT WITH OTHER CAA APPROVED DOCUMENTS

The MEL shall not conflict with other approved documents such as the aircraft flight manual limitations and airworthiness directives. The operator's MEL may be more restrictive than the MMEL, but under no circumstances shall the operator's MEL be less restrictive.

14.0 ADDITIONAL INSTRUCTIONS, NECESSARY TO CLARIFY THE ACTIONS TO BE TAKEN UNDER CERTAIN CONDITIONS AND/OR SITUATIONS REGARDING THE MEL

14.1 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.

14.2 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 operator's MEL (O) procedure. Instructions in these manuals concerning specific inoperative equipment situations must be consistent with instructions in the other manuals.

14.3 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 signaling 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:

14.3.1 Fire and/or smoke in the flight deck or passenger cabin;

14.3.2 Hi-jacking;

14.3.3 Ditching;

14.3.4 Emergency landing;



14.3.5 Evacuation the passenger cabin/Rejected Takeoff evacuation; or

14.3.6 Passenger problem (medical/disturbance).

Note: *It is not the Authority's intention to impose a requirement to preclude a cabin crew from opening the flight deck door to report an emergency situation.*

14.4 Action. Inspectors are directed to inform each of their operators of the need to include additional instructions, to clarify actions to be taken in the case of emergency or abnormal situations, concerning the MEL conditions and limitations. Inspectors should also inform their operators of the need for the PICs to brief the flight crew, lead cabin crew and/or concerned cabin crew of the actions to be taken in emergency or abnormal situations, in preparation for the possible break down of cabin/flight deck communication equipment.

15.0 MEL APPROVAL PROCESS

15.1 General

This part contains specific direction, guidance, and procedures to be used by flight operations and airworthiness inspectors when evaluating and approving MELs. The operator's MEL is developed by the operator from the appropriate Master Minimum Equipment List (MMEL) and then approved by the Authority. The approval process for an MEL follows the general process for approval or acceptance.

15.2 MEL Acceptability

15.2.1 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, the Civil Aviation Regulations, the operations specifications, the aircraft flight manual limitations, certification maintenance procedures, or airworthiness directives (ADs);
- b) **Appropriate.** The MEL must be appropriate to the individual aircraft make 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 should be applicable to the civil aviation regulations under which the operator is certificated.

15.3 Initial Phase of MEL Approval

15.3.1 In this phase of the MEL approval process, the operator should consult with the flight operations inspector (FOI) regarding requirements for either developing an MEL or for revising an existing MEL. The FOI may consult with the AWI and the appropriate specialist in the State of design.

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

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

- a) The proposed MEL or MEL changes;
- b) 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;
- c) A description of the MEL management programme and its procedures as required by the Operations Specifications, unless an MEL management programme is already in place;
- d) 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 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. Flight operations and Airworthiness inspectors should ensure acceptability of the procedures by the appropriate Aircraft Evaluation Group of the State of design before approving such procedures.*

15.3.4 **Materials Provided by the Operator.** Operators shall ensure that an updated copy of an MMEL and all subsequent amendments for a specific aircraft is submitted to the Nigeria Civil Aviation Authority in either hard copy or electronic format, along with appropriate guidance material.

15.3.5 **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 FOI. The operator and the FOI should discuss the techniques that will be used for revising and editing the proposed document. It is important that the operator understands that when the process is complete, the final proposed MEL must be submitted on paper unless otherwise approved by the Authority.

15.3.6 **MEL Format.** The MMEL format has been standardised to facilitate the development, revision and approval of both master and operator documents. If the master document contains eight total sections, then eight of these sections should be included in each operator's MEL. The FOI should review a detailed list of each MMEL section to determine that all items are addressed in the operator's MEL.

15.3.7 **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 to the specific MMEL.

15.4 Final Phase of MEL Approval Process

15.4.1 The final phase begins when the operator formally submits the proposed MEL or MEL changes to the FOI. The FOI should initially review the operator's submittal to verify that it is complete, contains the required elements as listed paragraphs and is detailed enough to permit a thorough evaluation of the MEL. In this process the FOI will ensure that Cabin Safety items are properly accounted for.

15.4.2 **Unacceptable Submittal.** If the FOI finds the proposed MEL package to be incomplete or unacceptable at this time or at any other time in the approval process, the FOI should contact the operator. A sample letter is provided in figure 3. If a mutually acceptable correction cannot be immediately agreed upon, the entire package must be immediately returned to the operator or his representative, along with an explanation of the problems found within the documents.

15.4.3 **Acceptable Submittal.** If the FOI 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 FOI should co-ordinate with the AWI 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 programme, its MEL management programme 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:

- a) **Timely Review.** FOIs should promptly address all deficiencies and notify the operator of any discrepancies or outstanding issues. The FOI and the operator may informally coordinate by telephone to clarify minor discrepancies or misunderstandings;
- b) **Reference Material.** Inspectors should use the MMEL and this Order as the primary reference document when reviewing and approving the MEL. In addition, inspectors should use the following references:
 - (i) Related Nigeria Civil Aviation Regulations;
 - (ii) Appropriate CAA advisory Circulars;
 - (iii) Approved flight manual;
 - (iv) Operator's Operations Specifications;
 - (v) Operator's manuals;
 - (vi) Any MEL policy letter published by NCAA;

15.4.4 **Co-ordination with Technical Groups.** During this phase, the FOI may wish to co-ordinate with the appropriate aircraft evaluation group of the State of design for guidance.

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

15.5 MEL Evaluation

15.5.1 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:

- a) Cover Page: The MEL cover page contains the operator's name and the make and model of the aircraft to which the MEL applies;
- b) Table of Contents: 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);
- c) Log of Revisions: 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;
- d) Preamble: The standard MMEL preamble section must be reproduced word for word in each MEL, without modification;
- e) Definitions: The standard MMEL definitions section must be reproduced word for word in each MEL, without modification;
- f) Control Page: 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 CAA approval of the MEL. The control page is also referred to as the "List of Effective Pages."

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

- a) The operator's name;
- b) A listing of all of the pages in the MEL (including the date of each page and its page number or revision number);
- c) The MMEL revision number on which the MEL is based;
- d) A signature block containing space for signature conveying CAA approval of the MEL;
- e) Optional Contents. The operator may include additional information on the control page to provide flexibility and additional approval functions;
- f) Highlights of Change Page (Optional). This page contains a synopsis of the changes made by the operator in each revision.

15.5.3 Additional Items. The operator may include additional information sections in excess of the six sections.

- a) 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 Regulations, with the approved flight manual emergency procedures and limitations, and with the operator's operations specifications. The following elements are included:
- (i) The ATA Numbering System. Operators should 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;
 - (ii) Individual Items of Equipment. The MMEL contains listed items of installed equipment that may be inoperative.
- b) 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;
- c) 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. The inspector should ensure that the operator has not listed inappropriate items or items that are listed individually elsewhere in the MMEL. However, the FOI is authorised to approve generic MMEL relief for navigation or communication equipment that is appropriate such as ILS, VOR, VHF, HF and GPS.
- d) Items Listed on the MMEL but not Installed on the Operator's Aircraft. In this case the operator should list the item as shown on the MMEL, and show the Number Installed as zero. Therefore, 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;

- e) 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;
- f) 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;
- g) 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. FOIs 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. The operator may make a list of passenger convenience items that, once it is acceptable to the FOI, are held at the certificate holding CAA office. 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.
- h) 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 not reference specific aircraft identifications; the "Number Installed" column may contain a dash;

- i) 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 as follows:
 - (i) When the item is not installed on the aircraft, in which case a zero shall be shown as the number required for dispatch;
 - (ii) 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.*

- j) "Remarks or Exceptions." Certain items demand specific relief developed by the operator as authorised through his Operations Specifications, area of operation and Nigeria Civil Aviation Regulations. "As required by regulation" is an example of this type of relief;
- k) Other Items. Other items in which relief has been specifically written to reflect actions or restrictions to the operation may be changed only when the MMEL is changed. Generally they contain "O" and "M" procedures in which the operator develops his company procedures to comply with the MEL;
- l) Evaluation of Associated Documentation. The inspector should evaluate the supporting documentation submitted by the operator to ensure that it is complete and appropriate;
- m) The Operations Manual. Inspectors should evaluate the operator's manual to ensure that it contains adequate guidance for the operator's personnel in conducting operations using the MEL. Generally, if the operator does not presently have an MEL programme, the applicable portions of his manual and other guidance material should be submitted at the time the MEL is submitted for initial review. When evaluating the operations manual, 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 should 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; and
 - (iv) The MEL item number for the equipment involved.
- n) Crew Notification. The operator should 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;

- o) 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;
- p) Training Programme Material. Inspectors should ensure that the operator's flight and ground personnel training programmes contain adequate instruction for MEL use;
- q) MEL Management Programme. The FOI should co-ordinate closely with both the AWI and the operator on the 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 coordinating 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.

15.6 Terms and Conditions of Relief

15.6.1 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 reviewing inspector must address the following elements of this section:

- a) 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;
- 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.

c) **"O" and "M" Procedures:**

- (i) "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;
- (ii) 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.

- (iii) **"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 flight crew; 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;
- (iv) **"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;

- (v) **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.

16.0 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.

17.0 RESULTS

17.1 When the FOI completes his review:

- 17.1.1 If problems are found, he will notify the assigned AWI in writing that the review is complete but that problems were found. The activity report comments sheet should list the specific problems with enough detail so proper corrections can be made.
- 17.1.2 The owner/operator should be given a copy of both operations and maintenance discrepancies in writing under one cover letter. An example letter is in Figure 1. The operator should make the needed corrections to both areas before re-submitting the MEL.
- 17.1.3 If everything is in accordance with the requirements the FOI should notify the AWI in writing that the flight operations review is complete and acceptable.
- 17.1.4 When both FOI and AWI are satisfied with the proposed MEL the Authority should mark all the MEL List of Effective Pages ~~APPROVED~~ with a signature and date of approval. The Authority will send a letter of approval to the owner/operator. An example letter is in Figure 2. The AWI will complete Section D095 of the Operations Specifications. The AWI must ensure that prior to authorizing the Operations Specifications; the MEL management programme has been approved. A sample D095 Operations Specifications is in Figure 3.
- 17.1.5 Once approved the Authority should keep on file a written copy of the approved MEL. The Original approved MEL, Master MEL, and Dispatch Deviation Guide should be returned to the owner/operator.

**FIGURE 1****EXAMPLE OF LETTER TO OPERATOR DENYING APPROVAL OF MEL**

[Date]

Name

Director of Operations International Air, Ltd.

Address

Dear (Name):

This letter is to inform you that the Minimum Equipment List (MEL) submitted for approval on June 6 is being returned to your office. A comparison of International Air's MEL against the current Master Minimum Equipment List (MMEL) shows that in the following places International Air's MEL is less restrictive than the MMEL.

Specifically, these System and Sequence Numbers do not comply with acceptable procedures:

1. Page 24-1, item 3. DC Loadmeter
2. Page 28-1, item 1. Boost Pumps
3. Page 30-3, item 13. Pitot Heater

Additionally, International Air's MEL does not include the required Control Page.

If you have further questions on the MEL approval process, please feel free to contact me.

Sincerely,

Name

Operations inspector

FIGURE 2

EXAMPLE OF LETTER TO OPERATOR APPROVING AN MEL

[Date]

Name

Director of Operations International Air, Ltd. Address

Dear Name:

This letter is to inform you that the Minimum Equipment List (MEL) submitted for approval on June 6 has been approved. The control page has been signed and paragraph D095 of the Operations Specifications has been issued.

Sincerely,

Name

Operations inspector

Figure 3

Nigeria Civil Aviation Authority	Operations Specifications	NCAA Control: 31 May 2007 NCAA Revision:
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D095.	Minimum Equipment List (MEL) Authorization
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1. Certificate Holder is authorized to use an approved Minimum Equipment List (MEL) for the aircraft listed in paragraph A003 of these Operations Specification provided the conditions and limitations of this paragraph are met. Certificate holder shall not use an MEL for any aircraft that is not specifically authorized by these operations specifications.
 - a. Maximum Times between Deferral and Repair. Except as provided in subparagraph c, the air operator shall have items repaired within the time intervals specified for the categories of items listed below:
 - i. Category A. Items in this category shall be repaired within the time interval specified in the remarks column of the air operator's approved MEL.
 - ii. Category B. Items in this category shall be repaired within 3 consecutive calendar days (72 hours excluding the calendar day the malfunction was recorded in the aircraft maintenance log and/or record.
 - iii. Category C. Items in this category shall be repaired within 10 consecutive calendar days (240 hours) excluding the calendar day the malfunction was recorded in the aircraft maintenance log and/or record.
 - iv. Category D. Items in this category shall be repaired within one hundred and twenty (120) consecutive calendar days (2,880 hours), excluding the day the malfunction was recorded in the aircraft maintenance log and/or record.
 - b. MEL Management Programme. Certificate holder shall develop and maintain a comprehensive programme for managing the repair of items listed in the approved MEL. The air operator shall include in a document or its manual a description of the MEL management programme. The MEL management programme must include at least the following provisions:
 - i. A method which provides for tracking the date and when appropriate, the time an item was deferred and subsequently repaired. The method must include a supervisory review of the number of deferred items per aircraft and a supervisory review of each deferred item to determine the reason for any delay in repair, length of delay, and the estimated date the item will be repaired.
 - ii. A plan for bringing together parts, maintenance personnel, and aircraft at a specific time and place for repair.
 - iii. A review of items deferred because of the unavailability of parts to ensure that a



- valid back order exists with a firm delivery date.
- iv. A description of specific duties and responsibilities by the job title of personnel who manage the MEL management programme.
 - v. Procedures for controlling extensions to specified maximum repair intervals as permitted by subparagraph c, to include the limit of the extension, documentation of reason for the extension and the procedures to be used for authorizing extensions.
- c. Certificate holder is authorized to use a continuing authorization to approve extensions to the maximum repair interval for category B and C items as specified in the approved MEL provided the responsible CAA Office is notified within 24 hours. The certificate holder is not authorized to approve any extensions to the maximum repair interval for category A and D items as specified in the approved MEL. The Authority may deny the use of this continuing authorization if abuse is evident.

Effective Date:

Page 17 of 25

Certificate No:



Figure 3

Nigeria Civil Aviation Authority **Operations Specifications** NCAA Control: 05-May-31
 NCAA Revision:

The certificate number on the reverse side of this form identifies the air operator whose name appears in Part A-001 of these Operations Specifications.

1. The Nigeria Civil Aviation Authority issues the Operations Specifications on the reverse side to certificate holder.
-
2. Certificate holder _____ hereby makes application for the AOC's operations specifications appearing on the reverse side hereof, (if this application amends previously approved operations specifications, tick the amendment box below and briefly describe the changes in the space below)
- Initial Issue Amendment

Reasons and supporting data for amendment (if space insufficient attach additional pages as required)

I certify that the statements submitted as supporting data are true and I am duly authorised to make this application on behalf of certificate holder

Name and Title	Signature	Date
----------------	-----------	------

3. The Operations Specifications set forth on the reverse side are approved by the Authority.

4. Name of Inspector: _____ Signature _____ Date: _____

for: The Director General

5. Effective Date of Approval: _____ Amendment No.: _____

6. I hereby accept and receive the Operations Specifications appearing on the reverse side on behalf of the Air Operator.

Name and Title	Signature	Date
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18.0 MEL USE IN SERVICE

18.1 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 Regulations.

18.2 Revision Procedures

18.2.1 Revisions to an MEL. Either the operator or the Civil Aviation Authority 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 Authority 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 unless this results in appropriate changes to the MMEL.

NOTE: When operations ("O") or maintenance ("M") procedures are required for the MMEL, it is the operator's responsibility to use manufacturer developed procedures in order to meet the requirements for inclusion of the item on the MEL. Where a manufacturer's recommended procedures do not exist operators must coordinate with the manufacturer in developing specific procedures. FOI's and AWI's should ensure acceptability of the procedures by the appropriate aircraft evaluation group of the State of design before approving such procedures. The FOI is not authorised to grant MEL relief unless the operator provides acceptable "O" and "M" procedures.

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

- a) Operators may propose changes to an MEL that are equal to, or more restrictive than, the MMEL. These revisions are approved by the Authority using the same procedures, as those required for an original MEL approval;
- b) Items Requiring an MMEL Change. Operators may request changes to an MEL for systems or components that have yet to be identified in 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;
- c) 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 review the MEL to assess the impact of any planned modification and should immediately notify the Authority of these modifications and the

impact on the MEL. The Authority should obtain guidance from the State of aircraft design, to determine if a revision to the MMEL is required.

18.2.3 MEL Revisions Initiated by the Civil Aviation Authority. The Authority may initiate an MEL revision that is not based on a revision to the MMEL. The Authority should make such a request to the operator in writing, stating specific reasons why the revision is necessary. An Authority initiated revision may be made upon the discovery that an operator has modified an aircraft or that faulty maintenance or operations procedures exist. The Authority 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 FOI may consult with the AWI to initiate an amendment of the operator's Operations Specifications to rescind the authority for the MEL.

18.2.4 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.

18.3 Tracking of Revision Status

FOIs shall maintain a copy of the current MEL for each assigned operator's aircraft type. The FOI shall update the MMEL to record and track the revision status of the operator's MEL.

18.4 Availability of MEL for Flight Crewmembers

18.4.1 Flight crewmembers must have direct access to the MEL at all times prior to flight. Regulations require that the operator carry the MEL aboard each aircraft.

18.4.2 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.

18.4.3 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 programme.

18.5 Method of Authorising Flight Crewmember Access to MEL

18.5.1 The Authority may approve a method other than printed means for providing the flight crew with access to the MEL. Before authorising such a method, the Authority 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 accepted

operations manual or equivalent.

- 18.5.2 When the decision is made to authorise this alternative method, the Authority should use appropriate provisions. In this case, the "Applicable Regulation" to the Operations Specifications would be Regulation 8.4.1.8 of the Nigeria Civil Aviation Regulations, and the "Remarks and/or References" section would refer to the appropriate section of the operator's manual.

18.6 Discrepancies Discovered During Flight

- 18.6.1 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.

- 18.6.2 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.

- 18.6.3 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.

18.7 Documentation of Discrepancies

Provisions of the MEL preamble requires 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.

18.8 Conflict with Airworthiness Directives

- 18.8.1 Occasionally an AD may apply to an item of equipment that may be authorised to be inoperative under the MEL. The item shall not simply be deferred under the MEL in order to avoid or delay compliance with the AD or an Authority approved alternate means of compliance with the AD. In all cases, when an AD has been issued, the operator must comply fully with the terms of the AD, or an Authority approved alternate means of compliance with the AD.

- 18.8.2 The authority must approve any alternative method of compliance with the AD as provided in 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.

18.9 Interrelationships of Inoperative Components

- 18.9.1 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.

- 18.9.2 This consideration must include the following:
- a) The interrelationship of one piece of equipment on another;
 - b) The crew workload;
 - c) The operation of the aircraft;
 - d) The flight restrictions.

18.10 Repair Categories

18.10.1 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.

18.10.2 In the event that more items are installed than 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 MEL for an explanation of repair categories.

19.0 CONFIGURATION DEVIATION LISTS

19.1 General

This section contains information for operations and airworthiness inspectors 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.

19.2 Development and Approval of a CDL

An aircraft manufacturer develops a proposed CDL for a specific aircraft type. For United States (U.S.) certificated aeroplanes, the CDL, once approved, is incorporated into the limitations section of the aeroplane flight manual (AFM) as an appendix. For manufacturers outside the U.S., the CDL may be a stand-alone document and part of the Structure Repair Manual, or another manufacturer's document. Some operators may choose to attach a copy of the CDL to their MEL for easy and ready reference by flight crews.

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

- 19.3.1 The limitations in the CDL when operating with certain equipment missing (except as noted in the appendix to the approved flight manual);



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

19.3.3 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.

19.4 Operational Control

The Authority 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 e.g. O & M Procedures.

20 NON-ESSENTIAL EQUIPMENT AND FURNISHINGS (NEF) PROGRAM

20.1 GENERAL.

- A. Purpose.** This section establishes Nigeria Civil Aviation Authority (NCAA) requirements for approval, oversight, and surveillance of Minimum Equipment List (MEL) nonessential equipment and furnishings (NEF) programs. This section applies to all operators authorized to conduct operations with an NCAA-approved MEL.
- B. Principal Operations Inspector (POI).** The POI is the primary NCAA official responsible for the overall process of administering, evaluating, and approving an operator's NEF program operators.
- C. Principal Airworthiness Inspector (PMI).** PMIs conduct surveillance on operator NEF programs. Before conducting surveillance, all PMIs must have a good understanding of at least the following:
- 1) The scope and purpose of the NEF deferral program;
 - 2) How items are selected for inclusion into an NEF program.

20.2 BACKGROUND.

NEF originated from what was once called Passenger Convenience Items (PCI). PCI were those items related to passenger convenience, comfort, or entertainment located in the cabin, galley, and lavatory areas. PCI did not allow for nonessential items that were missing or inoperative located elsewhere throughout the aircraft.

NOTE: ATA changed its name to Airlines for America (A4A). Use of the acronyms ATA and A4A are interchangeable.

20.3 THE NEF PROGRAM.

An NEF program allows operators to use the deferral authority granted in the MMEL to provide deferral relief for inoperative, damaged, or missing nonessential items located throughout the aircraft. An NEF program is developed by operators within their MEL, approved by the NCAA and tailored to meet their individual needs. An NEF program encompasses an NEF list (or equivalent), a process for evaluating an item in accordance with NEF requirements, reporting procedures, and repair and/or replacement policy and procedures.

D. Definition.

- 1) NEF items are:
 - a) Items installed on the aircraft as part of the original type certification (TC), Supplemental Type Certificate (STC), or other form of alteration that have no effect on the safe operation of the aircraft;
 - b) Items that, if inoperative, damaged, or missing, have no effect on the aircraft's ability to be operated safely under all operational conditions;
 - c) Items not required by the applicable certification or operational rules;



- d) Nonessential items that may be installed in areas including, but not limited to, the passenger compartment, flight deck area, service areas, cargo areas, crew rest areas, lavatories, and galley areas;
- e) Cosmetic items which are fully serviceable but worn.

NOTE: Cosmetic items may have associated fire retardant/blocking requirements that must be considered before approving as an NEF item.

2) NEF items are not (not all-inclusive):

- a) Items that are already identified in the CDL or MEL of the applicable aircraft;
- b) Items functionally required for meeting any certification rule;
- c) Items required for compliance with any operational rule;
- d) Items deferred contrary to an operator's-approved Continuous Airworthiness Maintenance Program (CAMP);
- e) Paint (mismatched, bad, or worn condition);
- f) Rodent or pest (bug) infestations of any type; and
- g) Items which are only dirty or soiled.

E. Deferral Authority. The deferral authority granted in the MMEL is the PMI or developing an operator-specific NEF program.

- 1) Although the NEF program is listed under ATA chapter 25, it may address items that fall under other ATA chapters.
- 2) The operator's NEF process must not provide for deferral of items within serviceable limits identified in the manufacturer's maintenance manual or operator's approved maintenance program (e.g., CAMP).
- 3) NEF items are not deferred under the authority of an Airframe and Powerplant (A&P) certificate but rather the operator is deferring the item under their approved NEF program.

F. Where to Find an Operator's NEF Program.

- 1) The NEF program for an operator is part of, and resides within, the operator's MEL management program.

NOTE: The operator's MEL management program is an operations OpSpec/management specification (MSpec) requirement.

20.4 DEVELOPMENT OF AN NEF PROGRAM.

The operator develops, implements, maintains, and revises each NEF program. Failure to comply with the NCAA-approved NEF program may result in the removal of the NEF authorization in the MEL.

G. Required NEF Program Elements. POIs and PMIs must ensure that the following elements are included in an NEF program:

- 1) **Method of Tracking NEF Items.** A list or other equivalent method of tracking NEF items may be used.
 - a) A list does not need to be developed and maintained, nor does an operator need to include the specific NEF items inside the MEL. However, a list reduces both the NCAA and operator's time spent analyzing recurring deferrals of the same item.
 - b) Operators who choose not to develop an NEF list must treat each NEF deferral as a newly discovered NEF item, as outlined in their individual NEF program.
 - c) NCAA safety inspectors must work with those operators who choose not to develop a NEF list to determine a mutually acceptable timeframe in which each newly identified and deferred NEF items will be reported for review.
 - d) If used, the NEF list should be comprehensive but may be listed in general terms with the concurrence of the POI or PMI with oversight responsibility. For example, cosmetic trim-strips may be listed rather than identifying each strip individually on the NEF list.
 - e) If the operator develops an NCAA-approved NEF list, the POI, or PMI with MEL oversight responsibility, must review all subsequent additions/revisions.
 - f) Whether in paper or electronic format, the applicable portions of the list (if applicable) and NEF process must be available to the flight and cabin crews, maintenance, and flight operations personnel, as appropriate, when items are being deferred in accordance with the operator NEF program.
 - g) The POI should work with the operator to determine a mutually acceptable timeframe in which the newly identified and deferred NEF items will be reported for review.
- 2) **Identifying Deferrals.** Procedures and processes for identifying NEF items that may be deferred.
- 3) **Tracking Deferrals.** Procedures for tracking program deferrals.
- 4) **Reporting Deferrals.** Procedures for the reporting of deferrals, as required, to the Authority

NOTE: NEF lists and processes may reside together or separately, in the location and manner selected by the operator and acceptable to the POI/PMI.
- 5) **Documentation Procedures.** Documentation procedures for inoperative, damaged, or missing NEF items.
- 6) **(M) and (O) Procedures.** Appropriate (M) and/or (O) procedures.

- 7) **Follow-up Maintenance.** Procedures for follow-up maintenance, repair, and replacement.
- 8) **Repair Intervals.** Repair intervals are prescribed for NEF items. Operators may use the current MEL deferral categories at their discretion or an alternate method acceptable to the
- 9) **Nig. CARs Part 5 Compliance.** Any portions of an NEF program that references maintenance must comply with standard practices defined in Nig. CARs Part 5.
- 10) **NEF Proviso.** The following proviso to an NEF program (see Figure 4-51) must be included into MEL ATA chapter 25 for general aviation operators, and for approved NEF programs under parts AOC holders. The reference proviso must be copied verbatim. However, as indicated in the proviso, the aircraft operator’s manual where the NEF program, processes, and procedures are found must be specific (see Figure 4-51 for the required NEF proviso).

Figure 20-1. Required NEF MEL Proviso for an NCAA-Approved NEF Program

System & Sequence Numbers 25 Equipment / Furnishings	Repair Interval	Number Installed	Number Required For Dispatch	Remarks or Exceptions
Non-Essential Equipment and Furnishings (NEF)	-	-	0	May be inoperative, damaged or missing provided that the item(s) is deferred in accordance with the NEF deferral program. The NEF program, procedures and processes are outlined in the operator’s (insert name) Manual. (M) and (O) procedures, if required, must be available to the flight crew and included in the aircraft operator’s appropriate document. NOTE: Exterior lavatory door ash trays are not considered NEF items.

H. NEF Program Approval.

- 1) **Operators.** All Operators submit their NEF program to the NCAA with oversight responsibility for approval via the normal MEL approval process. Once approved, a reference proviso to the program must be incorporated into MEL ATA chapter 25 (see Figure 20-1). This proviso indicates approval of the operator’s NEF program.
 - a) An operator may develop and submit a list of items desired to be included on the NEF list. The NCAA will review and concur with the list (if included) prior to approval of the operator’s program.
 - b) The NEF list does not have to be part of the standard MEL and may be kept in a form and manner as agreed upon by the operator and the NCAA.

- I. NEF Program Revisions.** The POI and PMI will review all additions and revisions to an NCAA-approved NEF program.
- J. NEF Criteria Elements for Item Selection.** Before operators can defer an NEF item, they must follow their NCAA-approved program for determining if an item can be considered for inclusion as an NEF item. NEF items are not safety of flight items. They have not been evaluated through the normal AEG review process and may require the concurrence of the flight crew, maintenance, and operational personnel, if applicable. POIs/PMIs must ensure that operators address specific elements when submitting items for review prior to inclusion into their approved NEF program. Both POIs and PMIs must apply the following questions when reviewing items and potential items for inclusion in an operator's NEF program:

NOTE: See Figure 20-2 for a flowchart that includes the following elements in sequence. The flowchart is provided as a guide for developing a NEF deferral process. The process may be modified to facilitate inclusion in an operator's overall MEL deferral program; however, the intent of the elements outlined in the flowchart below must be addressed.

- Is the item required for the operational rules in which the aircraft is operated?
 - Does the item create the potential for fire/smoke or other hazardous condition?
 - Could the item have an adverse effect on other required systems or components?
 - Is the item contrary to the operator's NCAA-approved CAMP?
 - Does the item's condition potentially affect the safety of passengers, crew, or service personnel?
 - Could the item have a negative impact on emergency or abnormal procedures?
 - Does the item create an additional workload for the crew at critical times of flight or flight preparation?
 - Do crewmembers need to evaluate the deferred NEF item on a flight-by-flight basis?
- 1) **Documentation.** For an inoperative, damaged, or missing item to be considered for inclusion in an NEF program, the discrepancy must be documented in the aircraft logbook (or other approved location) per the operator's discrepancy reporting system. This action is completed by the flight crew, company maintenance personnel, or personnel authorized and approved to perform such functions as outlined in the operator's maintenance program.
 - 2) **Current NEF Items.** If the inoperative, damaged, or missing item is already on the NEF deferral list (if used); the established procedures for NEF deferral of the item will be followed.
 - 3) **Master MEL, CDL, or MEL Items.** An MMEL, CDL, or MEL item may not be deferred in accordance with the operator's NEF program. Deferral procedures for inoperative, damaged, or missing items listed in the MMEL, CDL, or operator's MEL must be followed.
 - 4) **Subcomponents of MMEL, CDL, or MEL Items.** If the inoperative, damaged, or missing item is a subcomponent of a system identified in the MMEL/MEL/CDL, where no previous relief was authorized, the subcomponent may not be deferred in accordance with the operator's NEF program.
 - 5) **Required by Certification or Operational Rules.** If the item is required by any applicable certification or operational rules, the item may not be deferred in accordance with the operator's NEF program. If the item is functionally required to meet a certification rule, or for compliance with any operational rule, the item may not be deferred in accordance with the operator's NEF program.

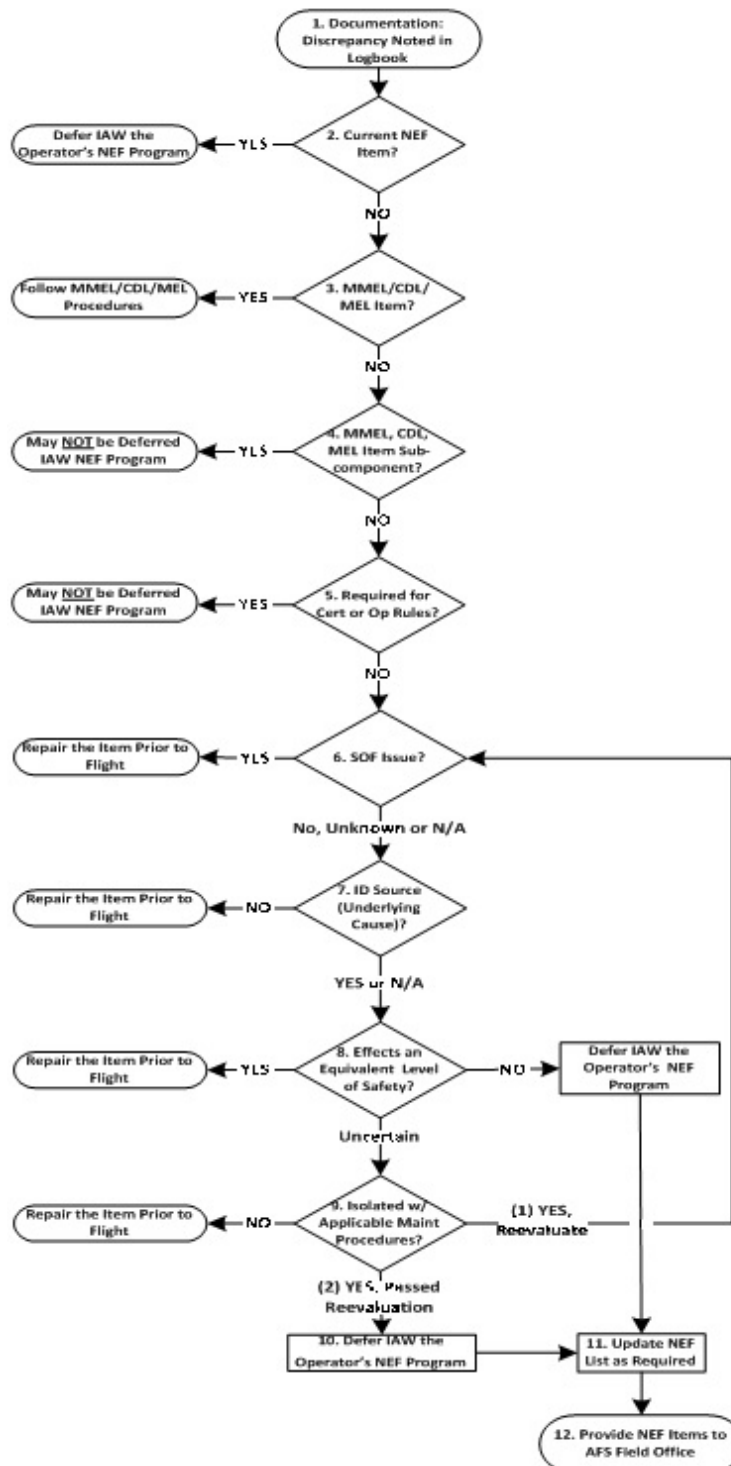
- 6) **Safety of Flight Issues.** If it is obvious from a maintenance or operational perspective that the item, in and of itself, could have an adverse effect on the safe conduct of flight; or if there is a Safety of Flight issue with an inoperative, damaged, or missing item, that item may not be deferred and must be repaired prior to flight.
- 7) **Source (Underlying Cause).** If the presence of a safety of flight issue is unknown, not present, or not applicable, ascertain whether the source (underlying cause) for the inoperative, damaged, or missing item can be identified and further evaluated. If the source (underlying cause):
 - a) Cannot be identified that item may not be deferred in accordance with the operator's NEF program and must be repaired prior to flight.
 - b) Can be identified, determine whether that source (underlying cause) affects an equivalent level of safety. If source (underlying cause) is not applicable, evaluate the effect of the item on an equivalent level of safety.
- 8) **Effects on an Equivalent Level of Safety.** Identify the effect of the source (underlying cause) of the inoperative, damaged, or missing item on an equivalent level of safety. If the source (underlying cause):

NOTE: In making this determination, close coordination between the flight crew, maintenance, and operations personnel may be required.

 - a) Has no effect on an equivalent level of safety; that item may be deferred in accordance with the operator's NEF program.
 - b) Affects an equivalent level of safety, the item may not be deferred in accordance with the operator's NEF program and must be repaired prior to flight.
- 9) **Isolation with Applicable Maintenance Procedures.** If it cannot be determined or remains uncertain that the discrepancy is a safety of flight issue, determine if any applicable maintenance procedures can isolate the source (underlying cause) of the inoperative, damaged, or missing item discrepancy from the system. If the source (underlying cause) of the discrepancy:
 - a) Cannot be safely isolated using applicable maintenance procedures, it must be repaired prior to flight.
 - b) Can be isolated using applicable maintenance procedures, it must pass a reevaluation of steps 6 through 9. If no safety of flight concern exists after the reevaluation, the item may be deferred in accordance with the operator's NEF program.
- 10) **Defer in Accordance with the Operator's NEF Program.**
- 11) **Update the NEF List, as Required.**
- 12) **Provide the NEF Items to the NCAA.**

Figure 20-2. Flowchart—Criteria Elements for NEF Item Selection

Note: This flowchart is not required to be included in the operator’s NEF program.





20.5 PROCEDURES.

Approval, oversight, and surveillance of operator NEF programs are conducted by PMIs. PMIs must have the knowledge base defined in paragraph J to effectively conduct the following procedures for initial review and approval.

K. NEF Program Review. The NEF program review commences upon submission of a draft NEF program from the operator to the NCAA:

- 1) Conforms to the definition found in paragraph 20.3;
- 2) Conforms to the parameters of NEF program development found in paragraph 20.4; and
- 3) Identifies that the NEF items listed (if applicable) are in compliance with the criteria elements listed in subparagraph 20.4D.

L. NEF Program Approval. The PMI will approve the operator's NEF program in accordance with paragraph 20.4.

20.6 TASK OUTCOMES.

M. Safety of Flight. By definition, items deferred by an operator's NEF program must have no connection to the safe operation of the aircraft. PMIs identifying NEF items that have safety of flight issues must be brought to the attention of the operator immediately.

N. Discrepancies. Any discrepancies or issues discovered by PMIs during review or surveillance of an NEF program must be addressed with the operator:

- 1) Prior to approval of the NEF program;
- 2) Immediately if related to a safety of flight issue; or
- 3) During a revision review.

20.7 FUTURE ACTIVITIES.

O. Surveillance. Through regular surveillance, PMIs must ensure that operator's NEF policies and procedures are applied consistently.

P. Enforcement. Failure to comply with the NCAA-approved NEF program may result in the removal of the operator's NCAA-approval to participate in the NEF portion of the MEL.

Q. Revisions. See paragraph 20.4.

21 NCAA'S POLICY ON MINIMUM EQUIPMENT LIST (MEL) REPAIR INTERVAL EXTENSION (RIE)

21.1 Background

- 21.1.1 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.
- 21.1.2 Part 8.2.1.5 of Nigeria Civil Aviation Regulations provides the Nigeria Civil Aviation Authority (NCAA), or an appropriate delegate, with the authority to approve defects in a Nigeria registered aircraft as a permissible unserviceability. NCAA also approves a schedule of permissible unserviceability for an aircraft in the form of a Minimum Equipment List (MEL). 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.

21.2 Repair intervals

- 21.2.1 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'.
- 21.2.2 Category A: Items in this category shall be repaired within the time interval specified in the remarks column of the MEL, adjacent to the item. Whenever the specified interval is stated in cycles or flight time, the time interval begins with the next flight. Category A items cannot be extended.
- 21.2.3 Category B: Items in this category are to be repaired within three (3) consecutive calendar days (72 hours) excluding the day the malfunction was recorded in the aircraft maintenance release or other approved document.
- 21.2.4 Category C: Items in this category shall be repaired within ten (10) consecutive calendar days (240 hours) excluding the day the malfunction was recorded in the aircraft maintenance release or other approved document.
- 21.2.5 Category D: Items in this category shall be repaired within one hundred and twenty (120) consecutive calendar days (2,880 hours) excluding the day the malfunction was recorded in the aircraft maintenance release or other approved document.

21.3 Repair Interval Extension (RIE)

- 21.3.1 Extensions of repair intervals are permitted for genuine spares procurement problems or other circumstances beyond the operator's control.
- 21.3.2 The certificate holder is authorised (see Opspecs part D47 and D53) to use a continuing authorisation to approve one-time extensions to the maximum repair interval for category B and C items as specified in the approved MEL provided the Authority is notified within 24 hrs of any extension approved. The certificate holder is not authorised to approved any extensions to the maximum repair interval for category A and D items as specified in the approved MEL. The Authority may deny the use of this continuing authorisation if above is evident.



21.3.3 Each certificate holder MEL management program must have procedures for controlling extensions to specific maximum repair intervals (if permitted), to include the limit of the extension and the procedures to be used for authorizing continuing authorization-single extensions.

21.3.4 It is recognised that the certificate holder may experience genuine difficulties in complying with the requirements of MEL repair intervals. If the certificate holder is unable to comply with a repair interval, or a one-time repair interval extension, as authorised above, then the certificate holder may apply to the Authority for an extension.

21.4.0 Additional Repair Interval Extensions.

21.4.1 The Authority may extend the repair interval for a category B item for a maximum period of up to six days (i.e. three days one-time extension plus an additional three days) and for a category C item, a maximum period of up to twenty days (i.e. ten days one-time repair interval extension plus additional ten days) where the Authority is satisfied that the repair interval extension would not have an adverse effect on the safety of air navigation. The certificate holder must provide the Authority all the necessary information for an assessment of the extension.

21.4.2 Only the General Manager responsible for safety oversight on a certificate holder that can approve additional extensions of repair category B and C items after the operator has exercised the one-time continuing authorization-single extension privilege.

(a) The General Manager will consider requests for an additional extension on a case-by-case basis only following recommendation from the Principal Inspector in charge of the certificate holder.

(b) If a General Manager elects to approve an additional extension, the additional extension time period begins at the end of the current extension time period.

(c) The maximum length of time a General Manager may approve for an additional extension may not exceed the original repair category time interval (e.g., repair category B is 3 days; repair category C is 10 days).

21.4.3 Any additional extensions beyond the initial General Manager-approved extension must be approved by the Director, Airworthiness Standards (DAWS) depending on the item. All additional extensions must be recommended in writing by both the POI and PMI or POI and PAI, and General Manager as appropriate.

21.4.4 If an operator requests any additional extension beyond Director, Airworthiness Standards written extension approval, it must ultimately be approved by the Director General. The additional extensions must be recommended by the Director, Airworthiness Standards (DAWS) and Director of Operations, Licensing and Training Standards (DOLTS).