



## TECHNICAL GUIDANCE MATERIAL

# CONTINUING SAFETY OVERSIGHT OF THE OPERATOR'S MAINTENANCE RESPONSIBILITY

**Subject: TECHNICAL GUIDANCE MATERIAL FOR CONTINUING SAFETY  
OVERSIGHT OF THE OPERATOR'S MAINTENANCE RESPONSIBILITY**

**Effective Date: 05 APRIL 2017**

### 1. PURPOSE:

This guidance material establishes the requirements for the continuing safety oversight of the operator's maintenance responsibility

### 2. ABBREVIATIONS

ABBREVIATION	DESCRIPTION
MOP	Manual of Procedures
CAA	Civil Aviation Authority
SACAR	South African Civil Aviation Regulation
AD	Airworthiness Directive
AOC	Air Operator Certificate
AMO	Aircraft Maintenance Organisation
CAA	Civil Aviation Authority
CAR	Civil Aviation Regulations
DCA	Director of Civil Aviation
MCM	Maintenance control manual
MEL	Minimum equipment list
NDoT	Department of Transport
SMS	Safety Management system
TC	Type Certificate
TCDS	Type Certificate Data Sheet

### 3. GENERAL

- 3.1** Continuing safety oversight of an operator by the CAA is inherent in the system of certification. It is an essential part of the CAA responsibility to ensure that the required standard of operation is maintained in order to provide a safe and reliable commercial air transport service to the public. Authority for this continuing process is contained in the provisions of the Civil Aviation Act.



- 3.2 The CAA has the authority and responsibility for exercising continuing safety oversight of commercial air transport operations to ensure that accepted safety practices and proper procedures for the promotion of safety in operations are maintained. To achieve this objective, the CAA through the inspectorate staff, is responsible to continuously monitor operations conducted by each operator. Such surveillance could result in the revision of operations specifications or in the temporary suspension of an AOC and, in an extreme case, could result in the revocation of an AOC.
- 3.3 Required surveillance and the related inspections should be planned and conducted by inspectors assigned to an operator as responsible for the standard of conduct of the operations. Whenever specialized assistance is required, the inspectors should request such help from other departments of the CAA. All inspectors authorized to conduct safety oversight need to be in possession of credentials identifying them as inspectors employed by the CAA.
- 3.4 The safety oversight of operators is to be conducted on a continuous basis, whether or not the AOC has a specific duration with an expiration date. It should be based on periodic random inspections of all aspects of the operation. The CARs prescribes a specific duration for an AOC, an operator needs to apply for renewal of the AOC prior to the expiration date.
- 3.5 The areas to be covered in the surveillance activities over a period of time should be similar to those examined during the original certification process. They should include at least a re-evaluation of the operator's organization, management effectiveness and control, facilities, equipment, aircraft maintenance, operational control and supervision, maintenance of flight and cabin standards safety procedures, operational and personnel records, training, company manuals, record of compliance with the provisions of the AOC, the associated operations specifications and pertinent operating regulations and rules.
- 3.6 During the surveillance activity, inspectors should conduct headquarters, station facility, aerodrome (or heliport), apron and en-route inspections to ensure that all important areas are covered and should record all surveillance activity in order to be able to answer any question that may arise concerning the factual basis for the inspector's recommendations.
- 3.7 All safety oversight activity, with respect to a particular operator, should be carefully planned. It will not be possible to cover all aspects of an operation during every inspection, but as much as possible should be covered over a specific period of time and appropriate records should be maintained. Inspections should also be planned on the basis of a risk assessment exercise so that aspects of the operation that involve the greatest risk should receive more frequent attention.

The planning of inspections by inspectors should take into account the results of the hazard identification and risk assessment conducted and maintained by the operator as part of the operator's safety management system (SMS).

4. Guidance on the conduct of a ramp inspection is provided in the separate procedure and TGM.

#### **4.1 MAINTENANCE RESPONSIBILITY OF THE OPERATOR**

- a) The regulation requires that an air service operator shall establish procedures acceptable to the Director that ensures that;
  - i. each aeroplane they operate is maintained in an airworthy condition;
  - ii. the operational and emergency equipment necessary for an intended flight is serviceable; and
  - iii. The Certificate of Airworthiness of each aeroplane they operate, and any appropriate special conditions, remains valid.



- b) The operator shall not operate an aeroplane unless it is maintained and released to service by an organisation approved in accordance with part 145 in the manner referred to in regulation 121.09.3.
- c) The operator shall employ sufficient personnel to ensure that all maintenance is carried out in accordance with the maintenance control manual referred to in regulation 121.09.5.
- d) The operator shall ensure that the maintenance of its aeroplanes is performed in accordance with the maintenance programme referred to in regulation 121.09.2.
- e) An operator shall ensure the airworthiness of the aircraft and the serviceability of both operational and emergency equipment by:
  - i. The accomplishment of preflight inspections;
  - ii. The rectification to an approved standard of any defect and damage affecting safe operation, taking into account the minimum equipment list and configuration deviation list if available for the aircraft type;
  - iii. The accomplishment of all maintenance in accordance with the approved operator's aircraft maintenance program;
  - iv. The analysis of the effectiveness of the operator's approved aircraft maintenance program;
  - v. The accomplishment of any operational directive, airworthiness directive and any other continued airworthiness requirement made mandatory by the Director; and
  - vi. The accomplishment of modifications in accordance with an approved standard and, for non-mandatory modifications, the establishment of an embodiment policy.
- f) An operator shall ensure that the Certificate of Airworthiness for each aircraft operated remains valid in respect of:
  - i. The requirements in sub-paragraph (1) above;
  - ii. Any calendar expiry date specified in the Certificate; and
  - iii. Any other maintenance condition specified in the Certificate.
- g) The requirements specified in subparagraph (5) above must be performed in accordance with procedures acceptable to the Authority.

## 4.2 SAFETY OVERSIGHT PROGRAMME

- a) In the first few months of a new operation, inspectors should be particularly alert to any irregular procedures, evidence of inadequate facilities or equipment, or indications that management control of the operation may be ineffective.  
They should also carefully examine any conditions that may indicate a significant deterioration in the operator's financial condition. Examples of trends which may indicate problems in a new operator's financial condition are:
  - i. significant lay-offs or turnover of personnel;
  - ii. delays in meeting payroll;
  - iii. reduction of safe operating standards;
  - iv. decreasing standards of training;
  - v. withdrawal of credit by suppliers;
  - vi. inadequate maintenance of aircraft;
  - vii. shortage of supplies and spare parts;
  - viii. curtailment or reduced frequency of revenue flights; and
  - ix. Sale or repossession of aircraft or other major equipment items.
- b) When any financial difficulties are identified, inspectors should increase technical surveillance of the operation with particular emphasis on the upholding of safety standards. The CAA should also refer the matter to the NDoT for any action deemed necessary, such as a financial audit.



- c) During the certification process, the inspector will have determined the methods, systems or procedures that the operator intended to use to ensure compliance with the applicable regulations, the AOC and its associated operations specifications and the operator's operations and maintenance control manuals. A prime objective of the safety oversight programme is to confirm that such methods, systems or procedures are being followed and are effective in the demonstration of operator compliance and achievement of safety objectives.
- d) Aircraft leases and contractual arrangements entered into by the operator for training, aircraft maintenance or servicing, etc. need to be thoroughly reviewed and a determination made of whether these arrangements are producing satisfactory results as far as the maintenance of safety standards and regulatory compliance are concerned.
- e) The training programme should also come under close scrutiny during oversight to ensure that the training standards, which were demonstrated when the programme was initially approved, are being maintained. If there are indications that the training provided is not achieving the desired training objectives, or has resulted in a high failure rate on various tests or examinations, inspectors need to make certain that the operator revises the training programme to ensure that trainees will reach the required level of competence.
- f) As indicated previously, the oversight function should be accomplished on a continuing basis, planned and performed at specified times or intervals or conducted in conjunction with the renewal of an AOC. Regardless of the method used, all significant aspects of the operator's procedures and practices should be evaluated and appropriate inspections, commensurate with the scale of the operator's activities, conducted at least once in every twelve-month period.
- g) The safety oversight programme of an operator should:
  - i. establish that the operator has conducted, and is likely to continue to conduct, operations in accordance with good operating practices, the AOC's operations specifications, operations and maintenance control manuals and the relevant operating regulations and rules;
  - ii. ensure that all changes in the applicable operating regulations and rules, in any amendments to the AOC or associated operations specifications, or otherwise any improvements in operating procedures, are put into practice and reflected in appropriate amendments to the operations manual or the maintenance control manual;
  - iii. keep the DCA informed of the competency, current operating practices and record of compliance of the operator;
  - iv. afford the DCA the opportunity to recommend CAA regulatory or policy changes if the safety oversight inspections indicate such action would result in improvements in operating safety standards in general; and
  - v. Establish whether the exercise of the privileges of an AOC and the associated operations specifications, by a particular operator should be continued, made the subject of further operating limitations, or be suspended, or revoked.
- h) Throughout all phases of the surveillance programme, the standards of capability and competence should equal or exceed that required at the time of original certification of the operator. Inspectors conducting surveillance and related inspections should carry out such activities in a thorough manner and require the operator to convincingly demonstrate that operations are being conducted in accordance with the AOC and associated operations specifications, the operator's manuals and appropriate Civil Aviation Regulations.
- i) In summary, the safety oversight programme should provide a comprehensive and conclusive assessment of an operator's continuing competence. Moreover, the associated inspection reports should indicate whether the safety oversight system and procedures employed by the CAA are effective in determining an operator's competence, record of compliance and over-all capability.



### 4.3 RESOLUTION OF SAFETY ISSUES

- a) When deficiencies are observed in the course of the safety oversight programme for a particular operator, the cause should be determined, prompt action taken to rectify the deficiency and appropriate follow-up initiated to determine the effectiveness of the corrective action. Additional inspections should be planned and conducted whenever problems in particular areas are repeated.
- b) Should the safety oversight programme and related inspection reports reveal that an operator has failed to meet, or is unable to meet or maintain the required standards for certification or the conditions specified in the AOC and its associated operations specifications, the inspector responsible for the safety oversight programme is to advise the operator of the deficiency observed and of the remedial action required. Remedial action will normally be required within a specified time. If an operator does not correct a deficiency as required, the inspector should inform his or her manager and, if necessary, make a recommendation that the AOC and its associated operations specifications be restricted, temporarily withdrawn or permanently withdrawn.
- c) Whenever the inspector responsible for oversight of an operator believes that safety considerations dictate immediate action to suspend or revoke an AOC, the inspector should inform his or her manager. If, after careful review of all circumstances involved and necessary co-ordination and consultation within the CAA, there is agreement on the need to suspend or revoke the operator's AOC, the Inspector should advise the operator in writing, summarizing both the proposed action and the reasons for it. When an AOC is suspended or revoked for any reason, the operator is required to promptly return the AOC to the issuing official. The ICAO international register of AOC, when operational, should be updated by the CAA with the status of the operator.

### 4.4 KNOWLEDGE, BACKGROUND AND EXPERIENCE OF INSPECTORS

The knowledge, background and experience of inspector in continuing airworthiness management should include:

- a) Aircraft maintenance programme development, approval and control, including applicable reliability programmes;
- b) Approval of modifications and repairs;
- c) Maintenance release;
- d) Applicability of airworthiness directives and operational directives with a continuing airworthiness impact;
- e) Correction or deferment of defects;
- f) Coordination of scheduled maintenance, the application of airworthiness directives, the replacement of life-limited parts and the inspection of components;
- g) Management of continuing airworthiness records;
- h) Mass and balance statement management;
- i) Airworthiness requirements of relevant parts of operations specifications; and
- j) Knowledge of quality systems.

### 4.5 CONTINUING AIRWORTHINESS TASKS

The aircraft continuing airworthiness and the serviceability of both operational and emergency equipment shall be ensured by:

#### 4.5.1 The accomplishment of pre-flight inspections;

- a) With regard to the pre-flight inspection it is intended to mean all of the actions necessary to ensure that the aircraft is fit to make the intended flight. These should typically include but are not necessarily limited to:



- i. A walk-around type inspection of the aircraft and its emergency equipment for condition including, in particular, any obvious signs of wear, damage or leakage. In addition, the presence of all required equipment including emergency equipment should be established.
  - ii. An inspection of the aircraft continuing airworthiness record system or the operators technical log as applicable to ensure that the intended flight is not adversely affected by any outstanding deferred defects and that no required maintenance action shown in the maintenance statement is overdue or will become due during the flight.
  - iii. A control that consumable fluids, gases etc. uplifted prior to flight are of the correct specification, free from contamination, and correctly recorded.
  - iv. A control that all doors are securely fastened.
  - v. A control that control surface and landing gear locks, pitot/static covers, restraint devices and engine/aperture blanks have been removed.
  - vi. A control that all the aircraft's external surfaces and engines are free from ice, snow, sand, dust etc.
- b) Tasks such as oil and hydraulic fluid uplift and tyre inflation may be considered as part of the pre-flight inspection. The related pre-flight inspection instructions should address the procedures to determine where the necessary uplift or inflation results from an abnormal consumption and possibly requires additional maintenance action by the approved maintenance organisation or certifying staff as appropriate.
- c) In the case of commercial air transport, an operator should publish guidance to maintenance and flight personnel and any other personnel performing pre-flight inspection tasks, as appropriate, defining responsibilities for these actions and, where tasks are contracted to other organisations, how their accomplishment is subject to the quality system should be demonstrated to the CAA that pre-flight inspection personnel have received appropriate training for the relevant pre-flight inspection tasks. The training standard for personnel performing the pre-flight inspection should be described in the operator's MCM.

#### **4.5.2 The rectification to an officially recognised standard of any defect and damage affecting safe operation taking into account, for all large aircraft or aircraft used for commercial air transport, the minimum equipment list and configuration deviation list if applicable to the aircraft type;**

In the case of commercial air transport the operator should have a system to ensure that all defects affecting the safe operation of the aircraft are rectified within the limits prescribed by the approved minimum equipment list (MEL) or configuration deviation list (CDL) as appropriate. Also that such defect rectification cannot be postponed unless agreed by the operator and in accordance with a procedure approved by the CAA.

In the case of commercial air transport or large aircraft, a system of assessment should be in operation to support the continuing airworthiness of an aircraft and to provide a continuous analysis of the effectiveness of the approved continuing airworthiness management organisation's defect control system in use. The system should provide for:

- a) Significant incidents and defects: monitor incidents and defects that have occurred in flight and defects found during maintenance and overhaul, highlighting any that appear significant in their own right.
- b) Repetitive incidents and defects: monitor on a continuous basis defects occurring in flight and defects found during maintenance and overhaul, highlighting any that are repetitive.
- c) Deferred and carried forward defects: Monitor on a continuous basis deferred and carried forward defects. Deferred defects are defined as those defects reported in operational service which are deferred for later rectification. Carried forward defects are defined as those defects arising during maintenance which are carried forward for rectification at a later maintenance input.
- d) Unscheduled removals and system performance: analyse unscheduled component removals and the performance of aircraft systems for use as part of the maintenance programme efficiency.



When deferring or carrying forward a defect the cumulative effect of a number of deferred or carried forward defects occurring on the same aircraft and any restrictions contained in the MEL should be considered. Whenever possible, deferred defects should be made known to the pilot/flight crew prior to their arrival at the aircraft.

#### **4.5.3 The accomplishment of all maintenance, in accordance with the approved aircraft maintenance programme;**

The owner or the approved continuing airworthiness management organisation as applicable should have a system to ensure that all aircraft maintenance checks are performed within the limits prescribed by the approved aircraft maintenance programme and that, whenever a maintenance check cannot be performed within the required time limit, its postponement is allowed in accordance with a procedure agreed by the CAA

#### **4.5.4 For all large aircraft or aircraft used for commercial air transport the analysis of the effectiveness of the approved maintenance programme;**

The operator or the contracted approved organisation as applicable should have a system to analyse the effectiveness of the maintenance programme, with regard to spares, established defects, malfunctions and damage, and to amend the maintenance programme accordingly.

#### **4.5.5 The accomplishment of any applicable:**

- a) Airworthiness directive,
- b) Operational directive with a continuing airworthiness impact,
- c) Continued airworthiness requirement established by the CAA.
- d) Measures mandated by the CAA in immediate reaction to a safety problem; Operational directives with a continuing airworthiness impact include operating rules such as extended twin-engine operations (ETOPS/EDTO) / long range operations (LROPS), reduced vertical separation minima (RVSM), MNPS, all weather operations (AWOPS), RNAV, etc. Any other continued airworthiness requirement made mandatory by the Agency includes TC related requirements such as: certification maintenance requirements (CMR), certification life limited parts, airworthiness limitations, etc.

#### **4.5.6 The accomplishment of modifications and repairs;**

##### **4.5.6.1 For non-mandatory modifications and/or inspections, for all large aircraft or aircraft used for commercial air transport the establishment of an embodiment policy;**

An operator or a contracted approved organisation as applicable should establish and work to a policy, which assesses non-mandatory information related to the airworthiness of the aircraft.

#### **4.6 Maintenance check flights when necessary.**

##### **4.6.1 Continuing oversight of the Operator maintenance responsibilities/approved continuing airworthiness organization of the Operator**

- a) The CAA shall keep and update a program listing for each approved continuing airworthiness organisations under its supervision, the dates when audit visits are due and when such visits were carried out.
- b) Each organisation shall be completely audited at periods not exceeding 12 months.



- i. Where the CAA has decided that a series of audit visits are necessary to arrive at a complete audit of an approved continuing airworthiness management organisation, the program should indicate which aspects of the approval will be covered on each visit.
  - ii. It is recommended that part of an audit concentrates on two ongoing aspects of the Operator maintenance approval, namely the organisations internal self-monitoring quality reports produced by the quality monitoring personnel to determine if the organisation is identifying and correcting its problems and secondly the number of concessions granted by the quality manager.
  - iii. At the successful conclusion of the audit(s) including verification of the exposition, an audit report form should be completed by the Inspector including all recorded findings, closure actions and recommendation.
  - iv. When an operator sub-contracts continuing airworthiness management tasks all sub-contracted organisations should also be audited by the CAA of operator at periods not exceeding 12 months to ensure they fully comply with Regulations/requirements. For these audits, the inspector should always ensure that he/she is accompanied throughout the audit by a senior technical member of the operator. All findings should be sent to and corrected by the operator.
- c) A relevant sample of the aircraft managed by the approved organisation shall be surveyed in every 12 month period. The size of the sample will be decided by the CAA based on the result of prior audits and earlier product surveys.
  - d) All findings shall be confirmed in writing to the applicant organisation.
  - e) The CAA shall record all findings and closure actions (actions required to close a finding).
  - f) A meeting with the accountable manager shall be convened at least once every 12 months to ensure he/she remains informed of significant issues arising during audits.

## 4.7 FINDINGS

**4.7.1** When during audits or by other means evidence is found showing non-compliance to the requirement, the CAA shall take the following actions:

- a) For Major findings, immediate action may be taken by the CAA to revoke, limit or suspend in whole or in part, depending upon the extent of the Major finding, the continuing airworthiness management organisation approval, until successful corrective action has been taken by the organisation.

For a Major finding the CAA should inform the owner/operator of any potentially affected aircraft in order that corrective action can be taken to ensure possible unsafe conditions on these aircraft are corrected before further flight.

- b) For Minor findings, the CAA shall grant a corrective action period appropriate to the nature of the finding that shall not be more than a month. In certain circumstances, at the end of this first period, and subject to the nature of the finding the CAA can extend the three month period subject to a satisfactory corrective action plan.

**4.7.2** Action shall be taken by the CAA to suspend in whole or part the approval in case of failure to comply within the timescale granted by the CAA.

## 4.8 CHANGES

**4.8.1** In the case of direct approval of the amendments of Maintenance Control Manual, the CAA shall verify that the procedures specified in the Manual are in compliance with Regulations/Requirements formally notifying the approved organisation of the approval.

**4.8.2** In the case of indirect approval of amendments of the Maintenance Control Manual, the CAA shall ensure that it has an adequate control over the approval of all manual amendments.



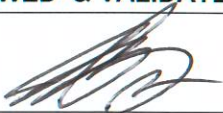
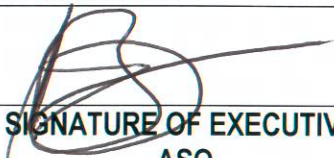
**4.8.3** The CAA shall prescribe the conditions under which the operator may operate during such changes.

- a) Changes in nominated persons, the CAA should have adequate control over any changes to the senior management personnel. Such changes will require an amendment to the Manual.
- b) It is recommended that a simple Manual status sheet is maintained which contains information on when an amendment was received by the CAA and when it was approved.
- c) The Operator should submit each Manual amendment to the CAA whether it is an amendment for CAA approval. Where the amendment requires CAA approval, the CAA when satisfied, should indicate its approval in writing.
- d) The following changes to the Operator maintenance approval require the approval of the DCA.
  - i. Name change
  - ii. Change of accountable manager
  - iii. Address change
  - iv. Approval scope and rating
  - v. New facility
  - vi. Any other change to the approval designated by the CAA.

#### **4.9 Revocation, suspension and limitation of an approval**

The CAA shall:

- a) Suspend an approval on reasonable grounds in the case of potential safety threat, or;
- b) Suspend, revoke or limit an approval pursuant to Part 7 of this procedure.

<b>REVIEWED &amp; VALIDATED BY:</b>		
	<b>ERIC MATABA</b>	<b>2017 -04- 11</b>
<b>SIGNATURE OF SENIOR MANAGER: FOD</b>	<b>NAME IN BLOCK LETTERS</b>	<b>DATE</b>
<b>APPROVED BY:</b>		
	<b>SIMON SEGWABE</b>	<b>11/04/2017</b>
<b>SIGNATURE OF EXECUTIVE: ASO</b>	<b>NAME IN BLOCK LETTERS</b>	<b>DATE</b>

**-END-**