ADVISORY CIRCULAR

FOR AIR OPERATORS AND MAINTENANCE ORGANIZATONS

Subject: MAINTENANCE CONTRACTING

Date: **1 February 2013**

Initiated By: **COSCAP-SA**

AC No: **019**

1. INTRODUCTION

a. Annex 6, Part I, 8.1.1 and Part III, Section II, 6.1.1 place an obligation on the operator to ensure that aeroplanes are operated and maintained in an airworthy condition. Paragraph 8.1.2 for aeroplanes and 6.1.2 for helicopters require that an aircraft shall not be operated unless it is maintained and released by an approved maintenance organization (AMO) or an equivalent system. A State, taking into account the complexity of aircraft and the degree of likely maintenance activity, may accept a system deemed to be equivalent in terms of continuing airworthiness. In this case, the certifying personnel must be licensed individually in accordance with Annex 1, Chapter 4.

b. Although an operator[1] may include a maintenance facility within its organization, many operators now contract maintenance to a separate organization. Throughout the process of evaluating contracts, it is important to remember that the operator is primarily responsible for the airworthiness of its aircraft, including airframes, aircraft engines, propellers, appliances, and parts thereof. Compliance with this general requirement is ensured by each operator having a programme covering inspections and all other maintenance, preventive maintenance, and alterations performed by it, or by other persons/organizations on its behalf, that requires such work be performed in accordance with the operator's manual.

c. The purpose of this Advisory Circular (AC) is to provide air operators with guidance on the contracting of continuing airworthiness management tasks and the contracting of maintenance tasks, including a list of the main points that should be addressed, when applicable, in a maintenance contract between an air operator and an AMO. In addition, this AC also provides AMOs with guidelines on the privileges with regard

[1] An operator in this AC means an air operator.

to sub-contracting of certain maintenance tasks. More detailed information is provided in the documents outlined below.

2. RESPONSIBILITIES FOR CONTRACTING OF CONTINUING AIRWORTHINESS MANAGEMENT TASKS

2.1 An operator may contract certain continuing airworthiness management tasks to competent persons or organizations, provided that the contracts are acceptable to the **[*State CAA*]**.

2.2 The accomplishment of continuing airworthiness activities forms an important part of the operator's responsibility, with the operator remaining accountable for satisfactory completion irrespective of any contract that may be established.

2.3 The approval of an organization to perform continuing airworthiness management tasks on behalf of commercial air transport operators is granted through the operator's air operator certificate (AOC). The contracted organization is considered to perform the continuing airworthiness management tasks as an integral part of the operator's continuing airworthiness management system, irrespective of any other approval held by the contractor.

2.4 The operator is ultimately responsible and therefore accountable for the airworthiness of its aircraft. To exercise this responsibility the operator must be satisfied that the actions taken by contracted organizations meet the standards required by **[*insert applicable State regulation for aircraft continuing airworthiness management*]**. The operator's management of such activities should therefore be accomplished:

(a) by active control through direct involvement, and/or;

(b) by endorsing the recommendations made by the contracted organization.

2.5 In order to retain ultimate responsibility the operator should limit contracted tasks to the activities specified below:

(a) airworthiness directive analysis and planning;

(b) service bulletin analysis;

(c) planning of maintenance;

(d) reliability monitoring, engine health monitoring;

(e) maintenance programme development and amendments; and,

(f) any other activities which do not limit the operators responsibilities as agreed by the **[*State CAA*]**.

2.6 The operator's management controls associated with contracted continuing airworthiness management tasks should be reflected in the associated written contract and be in accordance with the operator's policy and procedures defined in his continuing airworthiness management manual. When such tasks are contracted the operator's continuing airworthiness management system is considered to be extended to the contracted organization.

2.7 The operator should contract only to organizations which are acceptable to the **[*State CAA*]**.

2.8 With the exception of engines and auxiliary power units, contracts would normally be limited to one organization per aircraft type. Where arrangements are made with more than one organization the operator should demonstrate that adequate co-ordination controls are in place and that the individual responsibilities are clearly defined in related contracts.

2.9 Contracts should not authorize the contracted organization to further sub-contract to other organizations elements of the continuing airworthiness management tasks.

2.10 The operator should ensure that any findings arising from the **[*State CAA*]** during the monitoring of the contracted continuing airworthiness management tasks will be closed to the satisfaction of the **[*State CAA*]**. This provision should be included in the contract.

2.11 The contracted organization should agree to notify the operator of any changes affecting the contracts as soon as practical. The operator should then inform the **[*State CAA*]**. Failure to do so may invalidate the **[*State CAA*]** acceptance of the contract.

2.12 Appendix I to this AC provides information on the contracting of continuing airworthiness management tasks.

3. CONTRACTED MAINTENANCE

3.1 Where an operator is not approved under **[*insert State regulation for approval of maintenance organizations*]** or an operator's maintenance organization is an independent organization, a contract should be established between the operator and a [***State AMO***][2], specifying, in detail, the work to be performed by the [***State AMO***]. Further detail on the subject is contained in Appendix II to this AC.

3.2 Both the specification of work and the assignment of responsibilities should be clear, unambiguous and sufficiently detailed to ensure that no misunderstanding between the parties concerned (operator, maintenance organization and the **[*State CAA*]**) can arise that could result in a situation where work that has a bearing on the airworthiness or serviceability of aircraft is not or will not be properly performed.

3.3 Special attention should be paid to procedures and responsibilities to ensure that all maintenance work is performed, service bulletins are analyzed and decisions taken on accomplishment, airworthiness directives are completed on time and that all work, including non-mandatory modifications, is carried out to approved data and to the latest standards.

3.4 For line maintenance, the IATA Standard Ground Handling Agreement may be used as an example, but this does not preclude the **[*State CAA*]** from ensuring that the content of the contract is acceptable to them, and especially that the contract allows the operator to properly exercise its maintenance responsibility. Those parts of a

[2] A [*State AMO*] means a maintenance organization approved or accepted by the State.

contract that have no bearing on the technical or operational aspects of airworthiness are outside the scope of this Section.

3.5 It is possible to contract another operator that is not directly approved under **[*insert State regulation for approval of maintenance organizations*]**. In this case the contracting operator's continuing airworthiness management manual should include appropriate procedures to ensure that all of the contracted maintenance is ultimately performed on time by [***State AMOs***] in accordance with the contracting operator's data. In particular, the quality system procedures should place great emphasis on monitoring compliance with the above. The list of **[*insert State regulation for approval of maintenance organizations*]** approved contractors, or a reference to this list, should be included in the contracting operator's continuing airworthiness management manual.

3.6 Such a maintenance arrangement does not absolve the operator from its overall continuing airworthiness responsibility. Specifically, in order to accept the maintenance arrangement, the **[*State CAA*]** should be satisfied that such an arrangement allows the operator to ensure full compliance with its responsibilities pursuant to **[*insert applicable State regulation for aircraft continuing airworthiness management*]**.

3.7 Ensuring that all maintenance is carried out by an AMO does not preclude a primary maintenance arrangement with another operator which is not an AMO, when it proves that such an arrangement is in the interest of the contracting operator by simplifying the management of its maintenance, and the contracting operator retains appropriate control of the maintenance. Such an arrangement should not preclude the contracting operator from ensuring that all maintenance is performed by a [***State AMO***] and complying with the continuing airworthiness responsibility requirements. Typical examples of such arrangements follow:

Component maintenance
The operator may find it more appropriate to have a primary contractor that would dispatch the components to appropriately approved organizations, rather than itself sending different types of components to various [***State AMOs***]. The benefit for the operator is that the management of maintenance is simplified by having a single contact point for component maintenance. The operator remains responsible for ensuring that all maintenance is performed by [***State AMOs***] and is in accordance with the approved standard.

Aeroplane, engine and component maintenance
The operator may wish to have a maintenance contract with another operator of the same type of aircraft not approved under **[*insert State regulation for approval of maintenance organizations*]**. A typical case is that of a dry-leased aeroplane between operators, where the parties, for consistency or continuity reasons (especially for short term lease agreements) find it appropriate to keep the aeroplane under the original (i.e., lessor) maintenance arrangement. Where this arrangement involves various **[*insert State regulation for approval of maintenance organizations*]** approved contractors, it might be more manageable for the lessee operator to have a single contract with the lessor operator. Such an arrangement should not be understood as a transfer of responsibility to the lessor operator: the lessee operator, being the approved operator of the aircraft, remains responsible for

the continuing airworthiness of the aeroplane, and for employing the continuing airworthiness management group of persons and staff.

In essence, this does not alter the intent in that it also requires that the operator must establish a written maintenance contract acceptable to the **[*State CAA*]** and, whatever type of acceptable arrangement is made, the operator is required to exercise the same level of control on contracted maintenance, particularly through its continuing airworthiness management group of persons and quality system.

3.8 **M**aintenance contracts are not necessary when the operator's continuing airworthiness system, as approved by the **[*State CAA*]**, specifies that the relevant maintenance activity may be ordered through one-time work orders. This includes unscheduled line maintenance and may also include aeroplane component maintenance up to engines, provided the **[*State CAA*]** considers that the maintenance is manageable through work orders, in terms of both volume and complexity. It should be noted that even where base maintenance is ordered on a case-by-case basis, there should be a written maintenance contract.

4. AMO SUB-CONTRACTING

4.1 For the purpose of this section, sub-contracting refers to the case of one organization, not itself an AMO, carries out aircraft line maintenance or minor engine maintenance or maintenance of other aircraft components or a specialized service under the quality system of an AMO as a sub-contractor. To be appropriately approved to sub-contract, the AMO should have a procedure for the control of such sub-contractors as described below. Any AMO that carries out maintenance for another AMO within its own approval scope is not considered to be sub-contracting for the purpose of this section.

4.2 The work scope of sub-contracting shall not include a base maintenance check of an aircraft or a complete workshop maintenance check or overhaul of an engine or engine module. Maintenance of engines or engine modules other than a complete workshop maintenance check or overhaul is intended to mean any maintenance that can be carried out without disassembly of the core engine or, in the case of modular engines, without disassembly of any core module.

4.3 Fundamentals of AMO Sub-contracting

4.3.1 The fundamental reasons for allowing an AMO to sub-contract certain maintenance tasks are:

(a) To permit the acceptance of specialized maintenance services, such as, but not limited to, plating, heat treatment, plasma spray, fabrication of specified parts for minor repairs / modifications, etc., without the need for direct approval by the **[*State CAA*]**.

(b) To permit the acceptance of aircraft maintenance up to but not including a base maintenance check by organizations not appropriately approved under **[*insert State regulation for approval of maintenance organizations*]**.

(c) To permit the acceptance of component maintenance.

(d) To permit the acceptance of engine maintenance up to but not including a workshop maintenance check or overhaul of an engine or engine module by organizations not appropriately approved under **[*insert State regulation for approval of maintenance organizations*]**.

4.3.2 When maintenance is carried out under the sub-contract control system it means that for the duration of such maintenance, the AMO approval has been temporarily extended to include the sub-contractor. It therefore follows that those parts of the sub-contractor's facilities, personnel and procedures involved with the maintenance organization's products undergoing maintenance must meet **[*insert State regulation for approval of maintenance organizations*]** requirements for the duration of that maintenance and it remains the AMO's responsibility to ensure such requirements are satisfied.

4.3.3 For the criteria specified in sub-paragraph 4.3.1 the organization is not required to have complete facilities for maintenance that it needs to sub-contract but it should have its own expertise to determine that the sub-contractor meets the necessary standards. However, an organization cannot be approved unless it has the in-house facilities, procedures and expertise to carry out the majority of maintenance for which it wishes to be approved.

4.3.4 The organization may find it necessary to include several specialist sub-contractors to enable it to be approved to completely certify the release to service of a particular product. Examples could be specialist welding, electro-plating, painting, etc. To authorize the use of such sub-contractors, the **[*State CAA*]** will need to be satisfied that the organization has the necessary expertise and procedures to control such sub-contractors.

4.3.5 An organization working outside the scope of its approval schedule may in this circumstance operate only under the sub-contract control of another AMO.

4.3.6 Authorization to sub-contract is indicated by the **[*State CAA*]** accepting the maintenance organization's procedures manual containing a specific procedure on the control of sub-contractors.

4.4 Principal Procedures for the Control of Sub-contractors not Approved under **[*insert State regulation for approval of maintenance organizations*].**

4.4.1 A pre audit procedure should be established whereby the maintenance organization's sub-contract control section should audit a prospective sub-contractor to determine whether those services of the sub-contractor that it wishes to use meets the requirements of **[*insert State regulation for approval of maintenance organizations*]**.

4.4.2 The AMO needs to assess to what extent it will use the sub-contractor's facilities. As a general rule the AMO should require that its own paperwork, approved data and material/spare parts be used, but it could permit the use of tools, equipment and personnel from the sub-contractor as long as such tools, equipment and personnel meet the requirements of **[*insert State regulation for approval of maintenance organizations*]**. In the case of sub-contractors who provide specialized services it

may, for practical reasons, be necessary to use their specialized services personnel, approved data and material subject to acceptance by the AMO.

4.4.3 Unless the sub-contracted maintenance work can be fully inspected on receipt by the AMO it will be necessary for the AMO to supervise the inspection and release from the sub-contractor. Such activities should be fully described in the AMO's procedures. The AMO will need to determine whether to use its own staff or authorize the sub-contractor's staff.

4.4.4 The certificate of release to service may be issued either at the sub-contractor or at the AMO facility by staff appropriately authorized by the AMO. Such staff would normally come from the AMO but may otherwise be a person from the sub-contractor who meets the AMO certifying staff standard which itself is approved by the **[*State CAA*]** via the maintenance organization's procedures manual. The release documents will always be issued under the AMO approval reference.

4.4.5 The sub-contract control procedure will need to record audits of the sub-contractor, to have a corrective action follow up plan and to know when sub-contractors are being used. The procedure should include a clear revocation process for sub-contractors which cease to meet the AMO's requirements.

4.4.6 If the sub-contract control section is different from the independent audit section of the AMO's quality system, the AMO quality audit staff will need to audit the sub-contract control section and sample audit sub-contractors.

4.4.7 The contract between the AMO and the sub-contractor should contain a provision for the **[*State CAA*]** to have right of access to the sub-contractor for the purpose of conducting inspections.

5. APPLICABILITY

Air operators and AMOs should consider the information contained in this AC, when applicable.

6. REFERENCES

a. Part-M and Part-145 of the European Commission Regulation (EC) No 2042/2003 of 20 November 2003; and

b. Acceptable Means of Compliance to Part-M and Part-145 included in the Decision No. 2003/19/RM of the Executive Director of EASA of 28 November 2003.

-END-

Signed by: (Appropriate CAA Official)

Mailing Address: COSCAP-SA
3rd Floor, The Landmark
385 Galle Road, Colombo-3, Sri Lanka

Phone: +94 11 2370675-6
Fax: +94 11 2370674
E-mail: coscapsa@sltnet.lk

APPENDIX I
(Reference: 2.12)

CONTRACTING OF CONTINUING AIRWORTHINESS MANAGEMENT TASKS

1. Contracted Continuing Airworthiness Management Tasks

1.1 To actively control the standards of the contracted organization the operator should employ a person or group of persons who are trained and competent in the disciplines associated with aircraft continuing airworthiness management. As such they are responsible for determining what maintenance is required, when it must be performed and by whom and to what standard, in order to ensure the continued airworthiness of the aircraft being operated.

1.2 The operator should conduct a pre-contract audit to establish that the contracted organization can achieve the standards required by **[*insert applicable State regulation for aircraft continuing airworthiness management*]** in connection with those activities to be contracted.

1.3 The operator should ensure that the contracted organization has sufficient qualified personnel who are trained and competent in the functions to be contracted. In assessing the adequacy of personnel resources the operator should consider the particular needs of those activities that are to be contracted, while taking into account the contracted organization's existing commitments.

1.4 To be appropriately approved to contract out continuing airworthiness management tasks the operator should have procedures for the management control of these arrangements. The operator's continuing airworthiness management manual should contain relevant procedures to reflect his control of those arrangements made with the contracted organization.

1.5 Contracted continuing airworthiness management tasks should be addressed in a contract between the operator and the contracted organization. The contract should also specify that the contracted organization is responsible for informing the operator, who is in turn responsible for notifying the **[*State CAA*]**, of any subsequent changes that affect their ability to support the contract.

1.6 Organizations providing continuing airworthiness management tasks to support commercial air transport operators should use procedures which set out the manner by which the organization fulfils its responsibility for those contracted activities. Such procedures may be developed by either the contracted organization or the operator.

1.7 Where the contracted organization develops its own procedures, these should be compatible with the operator's continuing airworthiness management manual and the terms of the contract. These should be accepted by the **[*State CAA*]** as extended procedures of the operator and as such should be cross-referenced from the continuing airworthiness management manual. One current copy of contracted organization's relevant procedures should be kept by the operator and should be accessible to the **[*State CAA*]** when needed.

Note: The policy and procedures of the operator's continuing airworthiness management manual will prevail in the event of any conflict between the contracted organization's procedures and those of the operator.

1.8 The contract should also specify that the contracted organization's procedures may be amended only with the agreement of the operator. The operator should ensure that these amendments are compatible with its continuing airworthiness management manual and in compliance with **[*insert applicable State regulation for aircraft continuing airworthiness management*]**.

The operator should determine who will be responsible for continued monitoring and acceptance of the contracted organization procedures and their amendments. The controls used to fulfil this function should be clearly set out in the amendment section of the continuing airworthiness management manual detailing the level of operator involvement.

1.9 Whenever any elements of continuing airworthiness management tasks are contracted the operator's continuing airworthiness management personnel should have access to all relevant data in order to fulfil their responsibilities.

Note: Where necessary for the continuing airworthiness of their aircraft, the operator retains authority to override any recommendation of the contracted organization.

1.10 The operator should ensure that the contracted organization continues to have qualified technical expertise and sufficient resources to perform the contracted tasks while in compliance with the relevant procedures. Failure to do so may invalidate the approval of the operator's continuing airworthiness management system.

1.11 The contract should provide for monitoring by the **[*State CAA*]**.

1.12 The contract should address the respective responsibilities to ensure that any findings arising from the monitoring by the **[*State CAA*]** will be closed to the satisfaction of the **[*State CAA*]**.

2. Accomplishment

This paragraph describes topics which may be applicable in a contract arrangement.

2.1 Scope of work

The type of aircraft and their registrations, engine types and/or components subject to the continuing airworthiness management tasks contract should be specified.

2.2 Maintenance programme development and amendment

The operator may contract the preparation of the draft maintenance programme and any subsequent amendments. However, the operator remains responsible for assessing that the draft proposals meet his needs and for obtaining approval from the State of Registry of the aircraft; the relevant procedures should specify these responsibilities. The contract should also stipulate that any data necessary to substantiate the approval of the initial programme or an amendment to this programme should be provided for operator agreement and/or relevant Civil Aviation Authority (CAA) upon request.

2.3 Maintenance programme effectiveness and reliability

The operator should have in place a system to monitor and assess the effectiveness of the maintenance programme based on maintenance and operational experience. The collection of data and initial assessment may be made by the contracted organization; the required actions are to be endorsed by the operator.

Where reliability monitoring is used to establish maintenance programme effectiveness, this may be provided by the contracted organization and should be specified in the relevant procedures. Reference should be made to the operator's approved maintenance

programme and reliability programme. Participation of the operator's personnel in reliability meetings with the contracted organization should also be specified.

In providing reliability data the contracted organization is limited to working with primary data/documents provided by the operator or data provided by the operator's contracted maintenance organization(s) from which the reports are derived. The pooling of reliability data is permitted if accepted by the State of Registry of the aircraft and the **[*State CAA*]**.

2.4 Permitted variations to maintenance programme.

The reasons and justification for any proposed variation to scheduled maintenance may be prepared by the contracted organization. Acceptance of the proposed variation should be granted by the operator. The means by which the operator acceptance is given should be specified in the relevant procedures. When outside the limits set out in the maintenance programme, the operator is required to obtain approval from the State of Registry of the aircraft.

2.5 Scheduled maintenance

Where the contracted organization plans and defines maintenance checks or inspections in accordance with the approved maintenance programme, the required liaison with the operator, including feedback should be defined.

The planning control and documentation should be specified in the appropriate supporting procedures. These procedures should typically set out the operator's level of involvement in each type of check. This will normally involve the operator assessing and agreeing to a work specification on a case-by-case basis for base maintenance checks. For routine line maintenance checks this may be controlled on a day-to-day basis by the contracted organization subject to appropriate liaison and operator controls to ensure timely compliance. This typically may include, but is not necessarily limited to:

- Applicable work package, including job cards;
- Scheduled component removal list;
- ADs to be incorporated; and
- Modifications to be incorporated.

The associated procedures should ensure that the operator is advised in a timely manner on the accomplishment of such tasks.

2.6 Quality monitoring

The operator's quality system should monitor the adequacy of the contracted continuing airworthiness management task performance for compliance with the contract and the requirements of **[*insert applicable State regulation for aircraft continuing airworthiness management*]**. The terms of the contract should therefore include a provision allowing the operator to perform quality surveillance (including audits) upon the contracted organization. The aim of the surveillance is primarily to investigate and judge the effectiveness of those contracted activities and thereby to ensure compliance with **[*the requirements of the above regulation*]** and the contract. Audit reports may be subject to review when requested by the **[*State CAA*]**.

2.7 Access by the Civil Aviation Authority

The contract should specify that the contracted organization should always grant access to the **[*State CAA*]** for the purpose of inspection.

2.8 Maintenance data

The maintenance data used for the purpose of the contract should be specified, together with those responsible for providing such documentation and the CAA responsible for the acceptance/approval of such data when applicable. The operator should ensure that such data, including revisions, is readily available to the operator's continuing airworthiness management personnel and those in the contracted organization who may be required to assess such data. The operator should establish a process to ensure that urgent data is transmitted to the contractor in a timely manner. Maintenance data may include, but is not necessarily limited to:

- Maintenance programme;
- ADs;
- Service Bulletins;
- Major repairs/modification data;
- Aircraft Maintenance Manual;
- Engine overhaul manual;
- Aircraft IPC;
- Wiring diagrams; and
- Trouble shooting manual.

2.9 Airworthiness directives

While the various aspects of AD assessment, planning and follow-up may be accomplished by the contracted organization, embodiment is performed by an AMO. The operator is responsible for ensuring timely embodiment of applicable ADs and is to be provided with notification of compliance. It therefore follows that the operator should have clear policies and procedures on AD embodiment supported by defined procedures which will ensure that the operator agrees to the proposed means of compliance.

The relevant procedures should specify:

- What information (e.g., AD publications, continuing airworthiness records, flight hours/cycles, etc.) the contracted organization needs from the operator; and
- What information (e.g., AD planning listing, detailed engineering order, etc.) the operator needs from the contracted organization in order to ensure timely compliance with ADs.

To fulfil its responsibility, as noted above, an operator should ensure that it is in receipt of current mandatory continued airworthiness information for the aircraft and equipment that it operates.

2.10 Service bulletin/modifications

The contracted organization may be required to review and make recommendations on embodiment of an SB and other associated non-mandatory material based on a clear operator policy. This should be specified in the contract.

2.11 Service life limit controls and component control/removal forecast.

Where the contracted organization performs planning activities, it should be specified that the organization should be in receipt of the current flight cycles; flight hours; landings and/or calendar controlled details as applicable, at a frequency to be specified in the contract. The frequency should be such that it allows the organization to properly perform the contracted planning functions. It therefore follows that there will need to be adequate liaison between the operator, its AMOs and the contracted organization. Additionally the contract should specify how the operator will be in possession of all current flight cycles, flight hours, etc. in order that the operator may assure the timely accomplishment of the required maintenance.

2.12 Engine health monitoring

If the operator contracts the on-wing engine health monitoring, the contracted organization should be in receipt of all the relevant information to perform this task, including any parameter reading necessary to be supplied by the operator for this control. The contract should also specify what kind of feedback information (such as engine limitation, appropriate technical advice, etc.) the organization should provide to the operator.

2.13 Defect control

Where the operator has contracted the day-to-day control of technical log deferred defects this should be specified in the contract and should be adequately described in the appropriate procedures. The operator's Minimum Equipment List (MEL) and/or Configuration Deviation List (CDL) provide the basis for establishing which defects may be deferred and the associated limits. The procedures should also define the responsibilities and actions to be taken for defects such as AOG (Aircraft on Ground) situations, repetitive defects, and damage beyond type certificate holder's limits.

For all other defects identified during maintenance, the information should be brought to the attention of the operator who, dependant upon the procedural authority granted by the **[*State CAA*]**, may determine that some defects can be deferred. Therefore, adequate liaison between the operator, his contracted organization and the contracted AMO should be ensured.

The contracted organization should make a positive assessment of potential deferred defects and consider potential hazards arising from the cumulative effect of any combination of defects. The contracted organization should liaise with the operator to gain his agreement following this assessment.

Deferral of MEL/CDL allowable defects may be accomplished by a contracted AMO in compliance with the relevant technical log procedures, subject to acceptance by the aircraft commander.

2.14 Mandatory occurrence reporting

All incidents and occurrences that fall within the reporting criteria defined in applicable regulations should be reported as required by the respective requirements. The operator should ensure adequate liaison exists with the contracted organization and the AMO.

2.15 Continuing airworthiness records

These may be maintained and kept by the contracted organization on behalf of the operator who remains the owner of these documents. However, the operator should be provided with the current status of AD compliance and service life limited components in accordance with agreed procedures. The operator should also be provided with

unrestricted and timely access to original records as and when needed. On-line access to the appropriate information systems is acceptable.

The record keeping requirements of **[*insert State regulation for continuing airworthiness of aircraft and components*]** should be satisfied. Access to the records by the **[*State CAA*]** should be arranged upon request.

2.16 Check flight procedures

Check Flights are carried out under the control of the operator. Check flight requirements from the contracted organization or contracted AMOs should be agreed by the operator.

2.17 Communication between the operator and contracted organization

2.17.1 To meet its airworthiness responsibilities the operator needs to be in receipt of all relevant reports and relevant maintenance data. The contract should specify what information should be provided and when.

2.17.2 Meetings provide one important corner stone whereby the operator can exercise part of its responsibility for ensuring the airworthiness of the operated aircraft. They should be used to establish good communications between the operator, the contracted organization and, where different to the foregoing, the contracted AMO. The terms of contract should include whenever appropriate the provision for a certain number of meetings to be held between involved parties. Details of the types of liaison meetings and associated terms of reference of each meeting should be documented. The meetings may include but are not limited to all or a combination of:

a) Contract review

Before the contract is applicable, it is very important that the technical personnel of both parties that are involved in the application of the contract meet in order to be sure that every point leads to a common understanding of the duties of each party.

b) Work scope planning meetings

Work scope planning meetings may be organized so that the tasks to be performed may be agreed.

c) Technical meetings

Scheduled meetings should be organized in order to review on a regular basis and agree on actions on technical matters such as ADs, SBs, future modifications, major defects found during shop visit, reliability, etc.

d) Quality meetings

Quality meetings should be organized in order to examine matters raised by the operator's quality surveillance and the **[*State CAA*]**'s monitoring activity and to agree upon necessary corrective actions.

e) Reliability meetings

When a reliability programme exists, the contract should specify the operator's and AMO's respective involvement in that programme, including the participation in reliability meetings. Provision to enable the **[*State CAA*]** to participate in the periodic reliability meetings should also be provided.

APPENDIX II
(Reference: 3.1)

MAINTENANCE CONTRACT

1. General

The following paragraphs are not intended to provide a standard maintenance contract but to provide a list of the main points that should be addressed, when applicable, in a maintenance contract between an Operator and an AMO. As only the technical parts of the maintenance contracts must be acceptable to the **[*State CAA*]**, the following paragraphs address only technical matters and exclude matters such as costs, delay, warranty, etc.

When maintenance is contracted to more than one AMO (for example, aircraft base maintenance to X, engine maintenance to Y and line maintenance to Z1, Z2 and Z3), attention should be paid to the consistency of the different maintenance contracts.

A maintenance contract is not normally intended to provide appropriate detailed work instruction to the personnel (and is not normally distributed for that purpose). Accordingly, there must be established organizational responsibility, procedures and routines in the Operator's continuing airworthiness management unit and AMOs to take care of these functions in a satisfactory way such that any person involved is informed about his responsibility and the procedures which apply. These procedures and routines can be included/appended to the operator's continuing airworthiness management manual and maintenance organization's procedures manual or consist of separate procedures. In other words, procedures and routines should reflect the conditions of the contract.

2. Aircraft maintenance

This paragraph applies to a maintenance contract that includes base maintenance and, possibly, line maintenance. Section 4 of this appendix addresses the issue of maintenance contracts restricted to only line maintenance. Aircraft maintenance also includes the maintenance of the engines and APU while they are installed on the aircraft.

2.1 Scope of work

The type of aircraft and engines subject to the maintenance contract must be specified. It should preferably include aircraft by specific registration.

The type of maintenance to be performed by the AMO should be specified unambiguously.

2.2 Locations identified for the performance of maintenance/ Certificates held

The place(s) where base and line maintenance will be performed should be specified. The certificate held by the maintenance organization at the place(s) where the maintenance will be performed should be referred to in the contract. If necessary, the contract may address the possibility of performing maintenance at any location subject to the need for such maintenance arising either from the unserviceability of the aircraft or from the necessity of supporting occasional line maintenance.

2.3 Sub-contracting

The maintenance contract should specify under which conditions the AMO may sub-contract tasks to a third party, including whether or not the third party is an AMO.

The contract should at least make reference to **[*insert applicable provision of the State regulation for AMO sub-contracting*]**. In addition, the Operator may require the AMO to request the operator's approval before sub-contracting to a third party. Access should be given to the operator to any information (especially the quality monitoring information) about the AMO's sub-contractors involved in the contract. It should be noted that under the operator's responsibility both the operator and the **[*State CAA*]** are entitled to be fully informed about the sub-contracting.

2.4 Maintenance programme

The maintenance programme under which the maintenance is to be performed must be specified. The operator must have that maintenance programme approved under its own name by the State of Registry of the aircraft.

2.5 Quality monitoring

The terms of the contract should include a provision allowing the operator to perform quality surveillance (including audits) upon the AMO. The maintenance contract should specify how the results of the Quality surveillance are taken into account by the AMO (See also section 2.22 *Meetings*).

2.6 Involvement of the Civil Aviation Authority

When the operator's and the AMO's CAA are not the same, the operator and the AMO must each ensure with their own CAA that the respective CAA's responsibilities are properly defined and, if necessary, that delegation of authority has been established.

2.7 Airworthiness data

The airworthiness data used for the purpose of this contract as well as the authority responsible for its acceptance/approval must be specified. This may include, but is not limited to:

- Maintenance Programme;
- AD's;
- major repairs/modification data;
- aircraft Maintenance Manual;
- aircraft IPC;
- Wiring diagrams;
- Trouble shooting manual;
- Minimum Equipment List (normally on board the aircraft);
- Operations Manual; and,
- Flight Manual.

2.8 Incoming Conditions

The contract should specify in which condition the Operator must send the aircraft to the AMO. For checks of significance (e.g., 'C' checks and above), it may be beneficial that a work scope planning meeting be organized so that the tasks to be performed may be agreed (see also section 2.22 *Meetings*).

2.9 Airworthiness Directives and Service Bulletin/Modifications

The contract should specify what information the operator is responsible to provide to the AMO, such as the due date of the AD, the selected means of compliance, the decision to embody Service Bulletins (SBs) or modification, etc. In addition, the type of information the operator will need in return to complete the control of ADs and modification-status should be specified.

2.10 Hours and Cycles control

Hours and cycles control is the responsibility of the operator, but there may be cases where the AMO must be in receipt of the current flight hours and cycles on a regular basis so that it may update the records for its own planning functions (see also section 2.21 *Exchange of information*).

2.11 Life limited parts

Life Limited Parts (LLP) control is the responsibility of the operator.

The AMO must provide the operator with all the necessary information about the LLP removal/installation so that the Operator can update its records (see also section 2.21 *Exchange of information*).

2.12 Supply of parts

The contract should specify whether a particular type of material or component comes from the operator's or the AMO's stores, which type of component is pooled, etc. Attention should be paid to the fact that it is the AMO's responsibility to be satisfied that the component in question meets the approved data/standard and to ensure that the aircraft component is in a satisfactory condition for fitment. In other words, an AMO must not simply accept whatever it receives from the operator.

2.13 Pooled parts at line stations

The contract should specify how the subject of pooled parts at line stations should be addressed.

2.14 Scheduled maintenance

For planning scheduled maintenance checks, the support documentation to be given to the AMO should be specified. This may include, but is not limited to:

- applicable work package, including job cards;
- scheduled component removal list; and,
- modifications to be incorporated, etc.

When the AMO determines, for any reason, to defer a maintenance task, it must be formally agreed by the Operator. If the deferment goes beyond an approved limit, refer to section 2.17 *Deviation from the maintenance Schedule.* This should be addressed, where applicable, in the maintenance contract.

2.15 Unscheduled maintenance/Defect rectification

The contract should specify to which level the AMO may rectify a defect without reference to the operator. As a minimum, the approval and incorporation of major repairs should be addressed. The deferment of any defect rectification shall be submitted to the operator and, if applicable, to the **[*State CAA*]**.

2.16 Deferred tasks

See sections 2.14 and 2.15 above. In addition, the use of the Operator's MEL and the coordination with the operator in case of a defect that cannot be rectified at the line station should be addressed.

2.17 Deviation from the maintenance schedule

Deviations must be requested by the operator to the **[*State CAA*]** or granted by the Operator in accordance with a procedure acceptable to the **[*State CAA*]**. The contract should specify the support the AMO may provide to the operator in order to substantiate the deviation request.

2.18 Test flight

If a test flight is required, it shall be performed in accordance with the operator's continuing airworthiness management manual.

2.19 Release to service documentation

The release to service must be performed by the AMO in accordance with its procedures. The contract should, however, specify which support forms must be used (e.g., Operator's technical log, AMO's maintenance visit file, etc.) and the documentation the AMO should provide to the operator upon delivery of the aircraft. This may include, but is not limited to:

- Certificate of release to service (this is *mandatory*);
- flight test report;
- list of modifications embodied;
- list of repairs;
- list of ADs incorporated; and,
- maintenance visit report.

2.20 Maintenance recording

The Operator may contract the AMO to retain some of the maintenance records required by **[*insert applicable State regulation for continuing airworthiness of aircraft and components*]**. In such a case, the above mentioned records should be readily available to the operator and the **[*State CAA*]**. It should be ensured that every requirement of **[*the above regulation*]** is fulfilled by either the operator or the AMO.

2.21 Exchange of information

An exchange of information between the operator and the AMO is necessary, the contract should specify what information should be provided and when (i.e., on what occasion or at what frequency), how, by whom and to whom it must be transmitted.

2.22 Meetings

In order that the **[*State CAA*]** may be satisfied that a good communication system exists between the Operator and the AMO, the terms of the maintenance contract should include the provision for a certain number of meetings to be held between both parties.

2.22.1 Contract review

Before the contract is applicable, it is very important that the technical personnel of both parties that are involved in the application of the contract meet in order to be certain that every point leads to a common understanding of the duties of each party.

2.22.2 Work scope planning meeting

Work scope planning meetings may be organized so that the tasks to be performed can be agreed.

2.22.3 Technical meeting

Scheduled meetings may be organized in order to review, on a regular basis, technical matters such as ADs, SBs, future modifications, major defects found during maintenance check, reliability, etc.

2.22.4 Quality meeting

Quality meetings may be organized in order to examine matters raised by the operator's quality surveillance and to agree upon necessary corrective actions.

2.22.5 Reliability meeting

When a reliability programme exists, the contract should specify the Operator's and AMO's respective involvement in that programme, including participation in reliability meetings.

3. Engine maintenance

This paragraph deals with engine shop maintenance. "On wing" engine maintenance should be covered by Section 2 above.

3.1 Scope of work

The type of engine subject to the maintenance contract must be specified.

The type of maintenance to be performed by the AMO should be specified unambiguously.

3.2 Location identified for the performance of maintenance/ Certificates held

The place(s) where base and line maintenance will be performed should be specified. The certificate held by the maintenance organization at the place(s) where the maintenance will be performed must be referred to in the contract.

3.3 Sub-contracting

The maintenance contract should specify under which conditions the AMO may sub-contract tasks to a third party, including whether or not the third party is an AMO. The contract should at least make reference to **[*insert applicable provision of the State regulation for AMO sub-contracting*]**. In addition the Operator may require the AMO to request the operator's approval before sub-contracting to a third party. Access should be given to the operator to any information (especially the quality monitoring information) about the AMO's sub-contractors involved in the contract. It should be noted that under the operator's responsibility both the operator and the **[*State CAA*]** are entitled to be fully informed about the sub-contracting.

3.4 Maintenance Programme

The maintenance programme under which the maintenance is to be performed must be specified. The operator must have that maintenance programme approved under its own name by the State of Registry of the aircraft.

3.5 Quality monitoring

The terms of the contract should include a provision allowing the operator to perform quality surveillance (including audits) upon the AMO. The maintenance contract should

specify how the results of the Quality surveillance are taken into account by the AMO (See also section 3.21 *Meetings*).

3.6 Involvement of the Civil Aviation Authority

When the operator's and the AMO's CAA are not the same, the operator and the AMO must each ensure with their own CAA that the respective CAA's responsibilities are properly defined and, if necessary, that delegation of authority has been established.

3.7 Airworthiness data

The airworthiness data used for the purpose of this contract as well as the authority responsible for its acceptance/approval must be specified. This may include, but is not limited to:

- Maintenance Programme;
- ADs;
- major repairs/modification data; and,
- Engine overhaul manual.

3.8 Incoming Conditions

The contract should specify in which condition the Operator must send the engine to the AMO. For instance, it is important to specify the configuration of the engine (e.g., including the list of the components that remain fitted to the engine) before sending it to the AMO. It may also be valuable that a work scope planning meeting be organized so that the tasks to be performed may be agreed (see also section 3.21 *Meetings*).

3.9 Airworthiness Directives and Service Bulletin/Modifications

The contract should specify what information the operator is responsible to provide to the AMO, such as the due date of the AD, the selected means of compliance, the decision to embody Service Bulletins (SBs) or modification, etc. In addition, the type of information the operator will need in return to complete the control of ADs and modification-status should be specified.

3.10 Hours and Cycles control

Hours and cycles control is the responsibility of the operator, but there may be cases where the AMO must be in receipt of the current flight hours and cycles on a regular basis so that it can update the records for its own planning functions (see also section 3.20 *Exchange of information*).

3.11 Life Limited Parts

Life Limited Parts (LLP) control is the responsibility of the Operator.

The AMO must provide the operator with all the necessary information about the LLP removal/installation so that the Operator can update its records (see also section 3.20 *Exchange of information*).

3.12 Supply of parts

The contract should specify whether a particular type of material or component comes from the operator's or the AMO's stores, which type of component is pooled, etc. Attention should be paid to the fact that it is the AMO’s responsibility to be satisfied that the component in question meets the approved data/standard and to ensure that the

aircraft component is in a satisfactory condition for fitment. In other words, an AMO must not simply accept whatever it receives from the operator.

3.13 Scheduled maintenance

For planning scheduled maintenance checks, the support documentation to be given to the AMO should be specified. This may include, but is not limited to:

- applicable work package, including job cards;
- scheduled component removal list; and,
- modifications to be incorporated.

When the AMO determines, for any reason, to defer a maintenance task, it must be formally agreed by the Operator. If the deferment goes beyond an approved limit, refer to section 3.16 *Deviation from the maintenance Schedule.* This should be addressed, where applicable, in the maintenance contract.

3.14 Unscheduled maintenance/Defect rectification

The contract should specify to which level the AMO may rectify a defect without reference to the operator. As a minimum, the approval and incorporation of major repairs should be addressed. The deferment of any defect rectification shall be submitted to the operator and, if applicable, to the **[*State CAA*]**.

3.15 Deferred tasks

See sections 3.13 and 3.14 above.

3.16 Deviation from the Maintenance Schedule

Deviations must be requested by the operator to the **[*State CAA*]** or granted by the Operator in accordance with a procedure acceptable to the **[*State CAA*]**. The contract should specify the support the AMO may provide to the operator in order to substantiate the deviation request.

3.17 Test bench

The contract should specify the acceptability criterion and whether or not a representative of the operator must witness an engine undergoing test.

3.18 Release to service documentation

The contract should specify the documentation the AMO must provide to the operator upon delivery of the engine. This must include the **[*insert name of the release document*]**, and may also include, but is not limited to:

- test bench report;
- list of modifications embodied;
- list of repairs; and,
- list of ADs performed.

3.19 Maintenance recording

The Operator may contract the AMO to retain some of the maintenance records required by **[*insert applicable State regulation for continuing airworthiness of aircraft and components*]**. In such a case, the above mentioned records should be readily available to the operator and the **[*State CAA*]**. It should be ensured that every requirement of **[*the above regulation*]** is fulfilled by either the operator or the AMO.

3.20 Exchange of information

An exchange of information between the Operator and the AMO is necessary, the contract should specify what information should be provided and when (i.e., on what occasion or at what frequency), how, by whom and to whom it must be transmitted.

3.21 Meetings

In order that the **[*State CAA*]** may be satisfied that a good communication system exists between the Operator and the AMO, the terms of the maintenance contract should include the provision for a certain number of meetings to be held between both parties.

3.21.1 Contract review

Before the contract is applicable, it is very important that the technical personnel of both parties that are involved in the application of the contract meet in order to be certain that every point leads to a common understanding of the duties of each party.

3.21.2 Work scope planning meeting

Work scope planning meetings may be organized so that the tasks to be performed can be agreed.

3.21.3 Technical meeting

Scheduled meetings may be organized in order to review, on a regular basis, technical matters such as ADs, SBs, future modifications, major defects found during a shop visit, reliability, etc.

3.21.4 Quality meeting

Quality meetings may be organized in order to examine matters raised by the operator's quality surveillance and to agree upon necessary corrective actions.

3.21.5 Reliability meeting

When a reliability programme exists, the contract should specify the Operator's and AMO's respective involvement in that programme, including participation in reliability meetings.

4. Aircraft line maintenance

This section applies to a maintenance contract that includes line maintenance but excludes base maintenance activities.

4.1 Scope of work

The type of aircraft subject to the maintenance contract must be specified. It should include aircraft by specific registration.

The extent of maintenance to be performed by the AMO should be specified unambiguously.

4.2 Location identified for the performance of maintenance/ Certificates held

The place(s) where line maintenance will be performed should be specified. The certificate held by the maintenance organization at the place(s) where the maintenance will be performed must be referred to in the contract.

4.3 Sub-contracting

The maintenance contract should specify under which conditions the AMO may sub-contract tasks to a third may party, including whether or not the third party is an

AMO. The contract should at least make reference to **[*insert applicable provision of the State regulation for AMO sub-contracting*]**. In addition, the Operator may require the AMO to request the operator's approval before sub-contracting to a third party. Access should be given to the operator to any information (especially the quality monitoring information) about the AMO's sub-contractors involved in the contract. It should be noted that under the operator's responsibility both the operator and the **[*State CAA*]** are entitled to be fully informed about the sub-contracting.

4.4 Quality monitoring

The fact that the operator's contractor is appropriately approved in accordance with **[*insert State regulation for approval of maintenance organizations*]** does not preclude the Operator from performing quality surveillance (including audits) upon it.

4.5 Airworthiness data

The airworthiness data used for the purpose of the contract as well as the authority responsible for its acceptance/approval must be specified. This may include, but is not limited to:

- aircraft Maintenance Manual;
- aircraft IPC;
- Wiring diagrams;
- Trouble shooting manual;
- Minimum Equipment List (normally on board the aircraft);
- Operations Manual; and,
- Flight Manual.

4.6 Supply of parts

The contract should specify whether a particular type of material or component is supplied by the operator or the AMO. Attention should be paid to the fact that it is the AMO's responsibility to be satisfied that the component in question meets the approved data/standard and to ensure that the aircraft component is in a satisfactory condition for fitment. In other words, an AMO must not simply accept whatever it receives from the operator.

Storage conditions should also be addressed.

4.7 Pooled parts

The contract should specify how the subject of pooled parts at line stations should be addressed.

4.8 Unscheduled maintenance/Defect rectification

The contract should specify to which level the AMO may rectify a defect without reference to the operator, and what action should be taken in case the defect rectification may not be performed by the AMO.

4.9 Deferred tasks

The use of the operator's MEL and the coordination with the operator in case of a defect that cannot be rectified at the line station should be addressed.

4.10 Release to service

The release to service must be performed by the AMO in accordance with its procedures. The contract should however specify which support forms must be used (e.g., operator's technical log, etc.).

4.11 Exchange of information

An exchange of information between the operator and the AMO is necessary, the contract should specify what information should be provided and when, how, by whom and to whom it must be transmitted.

4.12 Meetings

Before the contract is applicable, it may be beneficial that the technical personnel of both parties that are involved in the application of the contract meet in order to be sure that every point leads to a common understanding of each party's duties.

--- End ---