Subject: For Maintenance Organisation Man-hour management Plan

Date: 14 March 2017

1. **APPLICABILITY**: This Guidance material is applicable to SACAA approved AMOs. The TGM shall be applied to all personnel, permanent or contractors, involved in aircraft maintenance activities and shall include but not be limited to technicians, fitters, planners, workshop personnel and supervisory management. The TGM shall be used in conjunction with the South African Labour Laws, company policy and any relevant Regulations.

2. **REGULATION REFERENCE CODES**
   
   Part 145 of the Civil Aviation Regulations of 2011, as amended (CARs)

3. **PURPOSE**: The purpose of this document is to provide information to AMO regarding man-hours management plan that needs to be used to manage maintenance personnel man hours thus ensuring that sufficient personnel of the right quality are available to plan, perform, supervise and inspect the work.

4. **FOCUS**: Accessing technical guidance material through the references provided assures that both inspectors and AMOs use current documents with effective dates.

5. **DISCUSSION AND CONTENTS**:
   
   5.1 **BACKGROUND**

   Requirements: Effective aircraft maintenance plans cannot only reduce operating costs, but are also directly related to improving flight safety.

   In general, airline layover maintenance includes regular checks and short-term layover maintenance procedures, the planning of which is, in practice, separated, because their different features. Regular checks usually require 1 or more days to finish all the jobs and aircraft need to stay at the parking ramp while the tasks are performed. Short-term layover maintenance includes a pre-flight check, a transit check, and a daily check.

   These are required before take-off and/or after landing. These checks are usually performed at the gate and take on average 1 or 2 hours. Since they are performed before departure and/or after arrival, when the aircraft are at the gates, they have to
fit within timetable and time constraints, otherwise punctuality would be affected incurring extra operating costs. Given the aircraft’s maintenance requirements, airlines have to plan their manpower resources to perform these activities

6. AIRCRAFT MAINTENANCE RESOURCING

The complete capability of aircraft maintenance, modification and component manufacture carried out by an organisation requires a flexible approach to manpower resourcing. Because of the variety of the work undertaken, most projects are unique in the allocation of personnel to ensure adequate man-hours are available to satisfactorily complete the work to be carried out.

An accurate monthly or weekly forecast of man-hours against the relevant aircraft types, or maintenance workload should be produced by an AMO and thus ensure that sufficient manpower is available to meet the tasks.

7. CONTRACT PERSONNEL

To support the fluctuations in aircraft inputs to the facility, an Organisation may sometimes makes use of contract personnel. The requirements of this TGM shall also be applicable to the Contract workers.

8. DUTY TIMES FOR PERSONNEL INVOLVED IN AIRCRAFT BASE MAINTENANCE ACTIVITIES

General

Research has shown that tiredness and fatigue from excessive working time, short rest periods and night-time working can adversely affect performance of personnel. In addition to health and safety concerns problems may also be experienced in making correct decisions when dealing with airworthiness matters.

In order to ensure that personnel are protected against incorrect decision making from tiredness and fatigue, duty time periods shall be applied by line management for personnel involved in aircraft maintenance activities. These requirements shall be in line with the South African Civil Aviation Regulations 2011 as amended and labour laws of South Africa.

9. DEROGATIONS

In extreme circumstances and at the discretion of the Accountable Manager, some flexibility may be allowed in the application of this TGM. In each case where a waiver is granted the Accountable Manager will be required to arrange for a written report and justification to be kept on the maintenance’s personnel’s file. Such discretion to waivers will be withdrawn if it is exercised excessively.

10. MAN HOUR MANAGEMENT PLAN STRUCTURE

The plan shall contain the following:

(a) Work Preparation
Work preparation, including assessment of work scope, programme plan, generation of work cards, tooling and equipment needs is described.

(b) Work Planning
Sequence of events, criticality of task, material availability, tooling requirements, man-power needs (accounting for approvals, disciplines and team size) and associated procedures.

(c) Work on Shift Policy
AMOs shall adapt its working practices to suit individual programmes, with limitations being applied to overall working durations for staff. Irrespective of the type of shift worked, it maintains a strict policy whereby safety critical tasks (e.g. independent inspections) are limited to day shift personnel, with late shift and night shift personnel being allocated ‘programme critical path’ activities.

(d) Work Safety
Safety of workers is of paramount importance to any AMO. An AMO should apply rigorous safety policies throughout its business and regularly reviews accident data and trend information to identify areas where improvements need to be made.

(e) Human factor
Management shall take into consideration Human Factor Elements. The key elements of the human factor as applicable to the aviation safety discipline shall include the following:

(aa) Human capability and limitation
(bb) Machine capability and limitations
(cc) Human - machine interface
(dd) Physical and organisational Environmental condition

(9) AMO SURVEILLANCE
The AMO shall be subjected to continuous surveillance to verify the effectiveness of the Aircraft Maintenance Man-hour management Plan. Once an organisation becomes operational SACAA’s on-going surveillance program will review that the appropriate implementation and enforcement of a Management Plan is undertaken by an organisation. This surveillance will include the examination of the processes that underpin the organisation’s systems and the objective of the surveillance audit will be to verify the organisation’s systems effectiveness.

(10) For any queries please send an e-mail to: airworthiness@caa.co.za

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