

**Minutes of the Joint UKOTG – UK Ops. Technical Group and the
Independent Maintenance Group Meeting**

**Held on Tuesday, 21st December 1999, 11.00 hrs.
KLM UK Boardroom, Endeavor House, Stansted Airport.**

In attendance: Jim Gibbons – Head of Engineering, KLM UK Engineering Ltd
(Chairman UKOTG)
Adrian Vaughan – Manager Airworthiness, Training & Information,
Britannia Airways
Alan Maskell – Director of Aviation, Wynnwith
David Hughes – IAP Aircraft Maintenance

Apologies: Michael Skinner – Manager Quality Fleet B747, B777, Concorde,
British Airways

Subject of Meeting:

A Code of Practice for Engineers' Working Hours

Recommendation for Industry

Introduction

JG explained that the UKOTG is looking to produce a recommendation to the CAA (preferably in time for the February 2000 meeting) regarding the implementation of a code of practice for the control of engineers' working hours. IMG have been invited to be part of this working group. He confirmed the existence of a body of evidence which shows that errors which potentially compromise safety can be related to excessive working hours and that the CAA will wish to look at various breakdowns of hours worked, ie: shift lengths, weekly hours worked etc.

The attendees agreed that the following be suggested to form a basis for a recommendation:

1. 60 hours to be the maximum weekly worked hours, which require no special 'approval' from management.
2. 60 hours a week worked may be exceeded if approved above line manager level (ie: at senior management level) following the procedure set in place by the individual company to approve such an increase – ie: companies to have their own 'risk assessment' policy in place to aid this decision. The decision-maker then being accountable and responsible for any consequences.
3. 95 hours overtime worked per month to be the maximum allowed – to be increased by senior management only in exceptional circumstances and by following a 'risk assessment' procedure which must be able to demonstrate that safety is not being compromised.
4. A shift should comprise 12 hours of consecutive working but may be increased (up to a maximum of 24 hours) by senior management, again following the approved 'risk assessment' policy, provided that a guaranteed rest period is taken after the shift:-

12 to 18 hours (inc.) worked	-	12 hours rest
Over 18 hours to 24 hours worked	-	24 hours rest.
5. This principle also to be applied to weekly working limits:

60 hours a week worked:	minimum 12 hours rest before commencement of next shift.
Over 60 hours a week worked:	minimum 24 hours rest before commencement of next shift.
6. A possible five year plan was suggested, to look at shortening shift lengths (ie: to scrap the 12 hour shift system) if manpower availability levels have improved within the industry by this time. Companies' commitments to recruitment and training in order to achieve this increased staffing level also possibly to be looked at as a separate issue.

Appendix A:

Aircraft Maintenance Engineers /Mechanics working Hours

It has long been established that the rate of maintenance errors is increasing and is contributing to the world total hull loss rate. We are all familiar with the need to reduce this rate therefore future justification is unnecessary in this area.

Omissions during assembly have been highlighted as the most significant area of concern. The causes identified from our human factors investigations are many, but in nearly all case fatigue and lack of supervision are present.

We have been aware for many years of the need to effect some form of control over engineers working hours but because this subject is so controversial we have considered it to difficult to address.

Some of the questions we should be asking ourselves are:

How effective are twelve-hour shifts?

How does our performance deteriorate from continuous night shift?

How many hours should be worked in any week / month.

What type of work is carried out (base maintenance, line maintenance, continuous or intermittent)?

Clearly there is a difference in workload where an engineer has to cover three turn rounds in twelve hours to thirty in the same lapse time.

Other points need to be considered such as safety critical tasks or simply refitting panels.

KLM UK engineering is already exercising some controls in this area in order to try to reduce the risk of maintenance error as part of the human factors program. While this is an attempt to solve this issue it is by no means a panacea.

The controls are as follows: - the maximum averaged working week over a four week period including over time should not exceed sixty hours.

Alleviation to this rule may be granted from an authorised manager who will require the applicant to justify why there is a requirement and will also carry out a safety risk assessment on the task that the engineer will be asked to perform. Any authorised hours-worked in excess of sixty hours in one week will require staff to have a minimum of eleven hours rest. Over time will not exceed ninety-five hours in a calendar month.

J Gibbons
Head of Engineering
KLM UK Engineering Ltd

22 December 1999